Geraldton District Fisheries Management Plan 1989 - 2000

Ontario
Ministry of Natural Resources

Geraldton District Fisheries Management Plan 1989 - 2000

90-03622/

© 1989 Government of Ontario

Additional copies of this publication are available from the District office. There will be a charge of $5.00 per plan on bulk orders.

District Background Information maps are available at a fee of $10.00 for the southern portion of the District and a fee of $3.00 for the northern portion of the District.

Address:

Ontario Ministry of Natural Resources
208 Beamish Ave. W.,
Box 640
Geraldton, Ontario
P0T 1M0

(807) 854-1030

PREFACE

The purpose of the Geraldton District Fisheries Management Plan (G.D.F.M.P.) is to indicate the long term fisheries management direction (1989 to 2000) within the Geraldton Administrative District.

The G.D.F.M.P. contains an overview of the fisheries resource base, fisheries management objectives, approved strategies and tactics and a five (5) year implementation schedule. The implementation schedule outlines the operational tactics and specific actions that are designed to implement the management strategies.

The preparation of this plan involved summarizing detailed fisheries information into a Background Information and Optional Management Strategies document which was presented to the public for their input and comments. Responses from the public were analyzed and taken into consideration in the preparation of a draft plan. The draft plan was then presented to the public. Comments received from the public were incorporated into the preparation of the G.D.F.M.P.

The G.D.F.M.P. is designed to provide guidance to local fisheries managers as well as indicate future management direction to the public.

J. Annis Murray
DISTRICT MANAGER
GERALDTON DISTRICT

A/**REGIONAL DIRECTOR**
NORTH CENTRAL REGION

TABLE OF CONTENTS

		Page
	Preface	i
	Table of Contents	ii
	List of Tables, Figures, Maps	iii
	Executive Summary	iv
	Sommaire	vi
1.0	**INTRODUCTION**	1
	1.1 Purpose	1
	1.2 Planning Process	1
	1.3 Existing Policy and Technical Direction	1
2.0	**DISTRICT FISHERIES PERSPECTIVE**	6
	2.1 The Fisheries Resource	6
	2.2 Potential and Allowable Fish Yields	6
	2.3 Resource Use and Projections	9
	2.4 Target Refinement	10
	2.5 Other Information	12
3.0	**MANAGEMENT DIRECTION**	15
	3.1 General Fisheries Management Objectives	15
	3.2 Specific Fisheries Management Objectives and Targets	17
	3.2.1 Sport Fish Management	17
	3.2.2 Commercial Fish Management	17
	3.2.3 Lake Trout Management	18
	3.2.4 Bait-fish Management	19
	3.3 Problems and Issues	20
	3.4 Strategies and Tactics	22
	3.4.1 District Wide Strategies and Tactics	22
	3.4.2 Zone 1 - Kenogami River	28
	3.4.2.1 Management Intent	28
	3.4.2.2 Zone Description	28
	3.4.2.3 Resource Use Influencing Fisheries Management	29
	3.4.2.4 Strategies and Tactics	29
	3.4.3 Zone 2 - Little Current River	33
	3.4.3.1 Management Intent	33
	3.4.3.2 Zone Description	33
	3.4.3.3 Resource Use Influencing Fisheries Management	34
	3.4.3.4 Strategies and Tactics	34
	3.4.4 Zone 3 - Ogoki River	38
	3.4.4.1 Management Intent	38
	3.4.4.2 Zone Description	38
	3.4.4.3 Resource Use Influencing Fisheries Management	39
	3.4.4.4 Strategies and Tactics	39
	3.4.5 Zone 4 - Albany North	42
	3.4.5.1 Management Intent	42
	3.4.5.2 Zone Description	42
	3.4.5.3 Resource Use Influencing Fisheries Management	43
	3.4.5.4 Strategies and Tactics	43
4.0	**IMPLEMENTATION**	47
REFERENCES		55
GLOSSARY		56

Page

List of Tables

Table 1: Summary of fisheries resource data for the Geraldton District. 7

Table 2: Known fish species data, allowable species yield and total allowable sport fish yield for the Geraldton District. 8

Table 3: Target refinements for the year 2000. 13

Table 4: Known fish species data for Zone 1. 29

Table 5: Known fish species data for Zone 2. 34

Table 6: Known fish species data for Zone 3. 39

Table 7: Known fish species data for Zone 4. 43

List of Figures

Figure 1: Geraldton District - Regional and Provincial Setting. 2

Figure 2: Geraldton Administrative District. 3

Figure 3: Schedule of the preparation of the Geraldton District Fisheries Management Plan. 5

Figure 4: Flowchart to illustrate the development of fisheries management direction. 18

Figure 5: Fisheries Management Zones 23

EXECUTIVE SUMMARY

Purpose

The Geraldton District Fisheries Management Plan (G.D.F.M.P.) is to provide fish managers with a long-term direction (1989 to 2000) for fisheries management efforts within the Geraldton District. It specifically describes those fisheries management actions to be carried out on the basis of 5-year intervals.

The Resource

Geraldton District is the largest of five districts in the North Central Region of the Ontario Ministry of Natural Resources. It covers a land area of 110,075 sq km of which almost 10% is water. There are 10,380 lakes and about 6,600 km of rivers and streams.

Walleye, northern pike and lake whitefish are found across most of the District. Brook trout are found in rivers and streams of the Albany River and Winisk River drainage systems. There are 18 known lake trout lakes scattered mainly south of the Albany River. Smallmouth bass are present in localized areas. Lake sturgeon are present in the large rivers and some of the larger lakes.

The total potential fish yield is 5,935,000 kg per year. The total allowable sport fish yield is 3,722,000 kg per year, consisting mainly of walleye, northern pike, and lake whitefish.

Present and Projected Use (Year 2000)

An estimated 20,400 adult anglers expended 207,000 angler days of fishing in the Geraldton District and harvested 414,000 kg of sport fish (Based primarily on the 1980 provincial angler survey). By the year 2000, an increase of anglers to 22,000 are expected to expend an effort of 223,000 angler days and harvest 446,000 kg of sport fish.

In 1986, the commercial fish harvest totalled 52,719 kg from a quota of 461,275 kg. Projected use by 2000 will probably reflect historical harvests of under 150,000 kg, from a present allocation of 461,275 kg quota.

In 1985, 64,000 dozen bait fish were harvested by commercial bait fishermen. The projected commercial bait-fish harvest is to meet the demand of 67,700 dozen.

The Indian subsistence fishery harvested an estimated 93,280 kg in 1986. The projected harvest is 98,784 kg.

The total sum of the present use and allocation is 968,555 kg. The total projected sum of the use and allocation is 1,006,059 kg, which is 27% of the total allowable sport fish yield.

Targets - Year 2000

The year 2000 targets are:

(1) to meet the demand by anglers of 223,000 angler days with a harvest of 446,000 kg of sport fish;
(2) an allocation of 487,000 kg commercial fishing quota (this target will require an amendment in the future as quotas are realigned to reflect historical harvests);

(3) to harvest a maximum of 20,840 kg of lake trout;
(4) to meet the anticipated demand by anglers of 67,700 dozen bait-fish.

Problems and Issues

Five problems and issues that affect the utilization and sustainability of the fisheries resource have been identified. They are: a need of fisheries management information; the protection of fisheries habitat; a need to increase public awareness and understanding; the loss of fish and fishing opportunities; and user conflicts.

Management Direction

A strategy is a course of action designed to overcome a particular problem or issue, and thereby meet a target. The accomplishment of strategies are through tactics or specific actions.

Strategies and tactics have been proposed in this report to overcome the identified problems and issues and to meet the targets. The Geraldton District is being divided into four fisheries management zones to reflect different combinations of strategies and tactics. These strategies and tactics must be applied selectively across the District for the following reasons:

- road accessibility is concentrated in the extreme southern portion of the District;
- resource extraction activities and other land use activities are predominantly concentrated in the extreme southern portion of the District;
- problems and issues differ significantly across the District;
- the distribution of fisheries resource users varies greatly across the District;
- there is an unequal distribution of fish species across the District;
- the logistics of achieving strategies requires that different tactics be employed (i.e., operating costs increase steadily from the southern boundary of the District to the northern boundary).

Overall, an increase in harvests of sport fish, commercial fish and bait-fish will be necessary to meet targets. These increases will be supplied from presently underutilized waterbodies. Reduction of localized overharvest will be necessary to meet specific targets.

The proposed tactics include:

- trophy status regulations for lake trout, brook trout and northern pike;
- regulation changes to address the overharvest of lake trout and brook trout;
- realigning commercial fish quotas to reflect historical harvests, thereby allowing for increased remote sport fishing opportunities;
- continue to protect remote sport fishing opportunities;
- initiate new day-use sport fishing opportunities.

Implementation

The tactics have been priorized within each zone, and a proposed 5-year implementation schedule (1989-1993) of tactics is presented.

SOMMAIRE DU PLAN DE GESTION

But du plan

Le plan de gestion des pêches du district de Geraldton a pour but d'orienter, à long terme (1988-2000), les travaux de gestion des pêches menés au district de Geraldton.

Les ressources

D'une superficie de 110 075 km^2, Geraldton constitue le plus grand des cinq districts de la région Centre-Nord du ministère des Richesses naturelles. On y trouve 10 380 lacs et environ 6 600 km de rivières et ruisseaux.

Le doré, le brochet et le corégone sont répandus dans presque tous les cours d'eau du district; les populations d'ombles de fontaine habitent les rivières et ruisseaux du bassin des rivières Albany et Winisk; et 18 lacs à touladi ont été enregistrés, principalement au sud de la rivière Albany. Certaines régions abritent également des populations d'achigans à petite bouche et on retrouve de l'esturgeon dans les grandes rivières et quelques-uns des grands lacs du district.

La récolte annuelle possible se situe à 5 935 000 kg; la limite des prises annuelles de pêche sportive est de 3 722 000 kg et est principalement constituée de dorés, brochets et grands corégones.

Utilisation actuelle et prévue (an 2000)

D'après les résultats de l'enquête de 1980 sur la pêche sportive (décompte des prises), quelque 20 400 pêcheurs adultes ont passé 207 000 jours-pêcheurs dans le district de Geraldton et y auraient récolté 414 000 kg de poissons gibiers. On prévoit que, d'ici l'an 2000, environ 22 000 pêcheurs y passeront 223 000 jours-pêcheurs et que la récolte annuelle atteindra 446 000 kg.

En 1986, la récolte commerciale a atteint 52 719 kg du quota établi à 461 275 kg. La récolte probable pour l'an 2000 devrait correspondre aux quantités habituelles, soit en-deça de 150 000 kg, et le quota devrait demeurer le même.

En 1985, la récolte commerciale de poisson-appâts se situait à 64 000 douzaines; la demande devrait atteindre 67 700 en l'an 2000.

Les récoltes effectuées par les autochtones pour leur consommation personnelle comptaient pour 93 280 kg en 1986 et devraient atteindre 98 784 kg en l'an 2000.

En tout, les récoltes actuelles s'élèvent à 968 555 kg et celles prévues pour l'an 2000 atteindront 1 006 059 kg, soit 27 pour 100 de la récolte permise pour la pêche sportive.

L'objectif pour l'an 2000

(1) Satisfaire à la demande prévue de 223 000 jours-pêches, soit une récolte de 446 000 kg pour la pêche sportive.

(2) Établir le quota de pêche commerciale à 487 000 kg de poissons (cet objectif devra être réévaluer pour tenir compte des récoltes passées).

(3) Récolter 20 840 kg de touladis au maximum;

(4) Satisfaire aux demandes prévues de 67 700 douzaines de poissons d'appât.

Questions à résoudre

Les 5 questions suivantes, concernant l'utilisation et le rendement soutenu des ressources de pêches, ont été traitées: la diffusion de renseignements sur la gestion des pêches; la protection des habitats aquatiques; la sensibilisation du public aux divers aspects des ressources de pêches; le déclin des populations de poissons et des possibilités de pêches; et les conflits entre différents utilisateurs des ressources.

Gestion future

Par stratégie, on entend l'ensemble des tactiques ou moyens coordonnés qui permettent de résoudre un problème particulier et d'atteindre un objectif précis.

Afin d'aborder les problèmes ci-haut mentionnés, le district de Geraldton sera divisé en quatre zones de gestion ayant chacune leurs propres tactiques, et ce pour les raisons suivantes:

- les routes d'accès sont situées aux limites sud du district;
- la presque totalité des activités d'exploration des ressources, de même que l'utilisation des terres, ont surtout lieu aux limites sud du district;
- les problèmes à résoudre varient selon les régions du district;
- la répartition du nombre de pêcheurs varie selon les régions du district;
- les espèces de poissons sont réparties différemment selon les régions du district;
- les différentes tactiques traduisent les besoins de chaque région du district (par ex., les frais d'exploitation augmentent progressivement des limites sud aux limites nord du district).

D'une façon générale, il sera nécessaire d'accroître les pêches sportive et commerciale et la pêche au poisson d'appât afin d'atteindre l'objectif prévu. D'une part, la pêche dans les cours d'eau actuellement sous-utilisés devrait permettre d'atteindre cet objectif; d'autre part, les réserves de poissons de certains cours d'eau devront être protégées contre une pêche excessive.

Parmi les tactiques proposées, citons:

- la réglementation des prises-trophée de touladis, d'ombles de fontaine et de brochets;
- la mise en vigueur de nouveaux règlements pour réduire la surpêche du touladi et de l'omble de fontaine.
- la modification des quotas de pêche commerciale en fonction des récoltes passées, de manière à accroître les possibilités de pêche en régions éloignées;
- la protection continue des possibilités de pêche en régions éloignées;
- la création de nouvelles activités quotidiennes de pêche.

Mise en oeuvre des tactiques

Les tactiques pour chaque zone sont proposées en ordre d'importance et leur mise en oeuvre est échelonnée sur 5 ans, soit de 1988 à 1992.

1.0 INTRODUCTION

1.1 Purpose

The Geraldton District Fisheries Management Plan (G.D.F.M.P.) is to provide fish managers with a long-term direction (1989 to 2000) for fisheries management efforts within the Geraldton District. It specifically describes those fisheries management actions to be carried out on the basis of 5-year intervals.

The Geraldton Administrative District of the Ontario Ministry of Natural Resources (O.M.N.R.) is the largest of five districts within the North Central Region (Figure 1). It covers a land area of 110,075 km^2 of which 10,607 km^2 (9.64%) is water (Figure 2).

1.2 Planning Process

The initial thrust for district fisheries management planning was generated by the development of the Strategic Planning for Ontario Fisheries (S.P.O.F.) in the 1970's. The Strategic Land Use Plan for Northwestern Ontario (S.L.U.P.) (O.M.N.R., 1982) presented broad objectives and targets for sport fish, commercial fish, bait-fish and lake trout for this area of the Province, including specific targets for the Geraldton District. These specific targets were tested through a detailed resource analysis, based on updated information. As a result of this analysis, the specific management targets for sport fish, commercial fish, bait-fish and lake trout were refined.

The G.D.F.M.P. is part of the Ministry of Natural Resources integrated resource management planning program. The S.L.U.P. document and the Planning Manual for District Fisheries Management Plans (O.M.N.R., 1986.) provide the framework used to prepare this plan.

The development of this plan is viewed as a partnership with you, the public, and your input plays a key role in future fisheries management in the Geraldton District. Figure 3 illustrates the schedule of preparation.

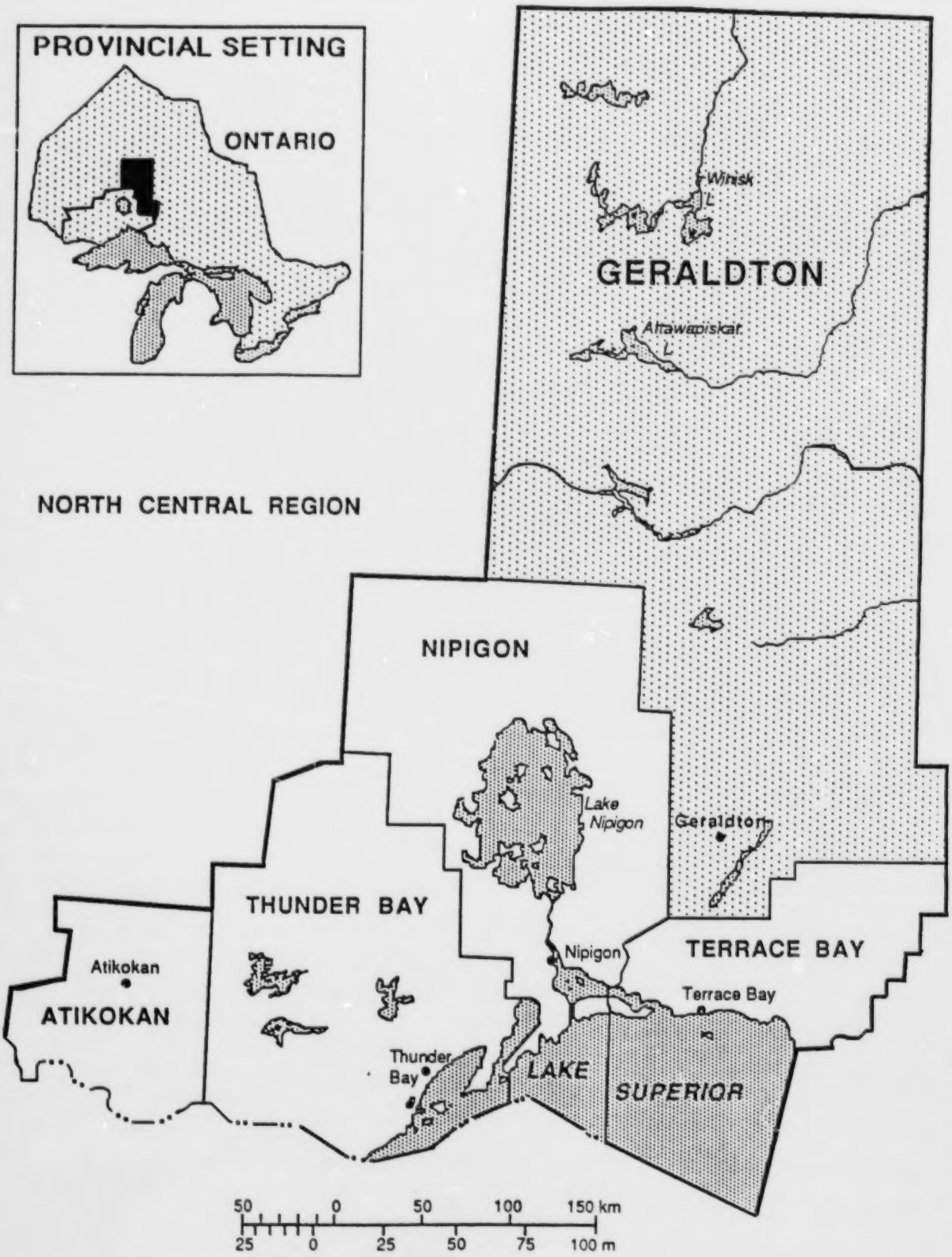
1.3 Existing Policy and Technical Direction

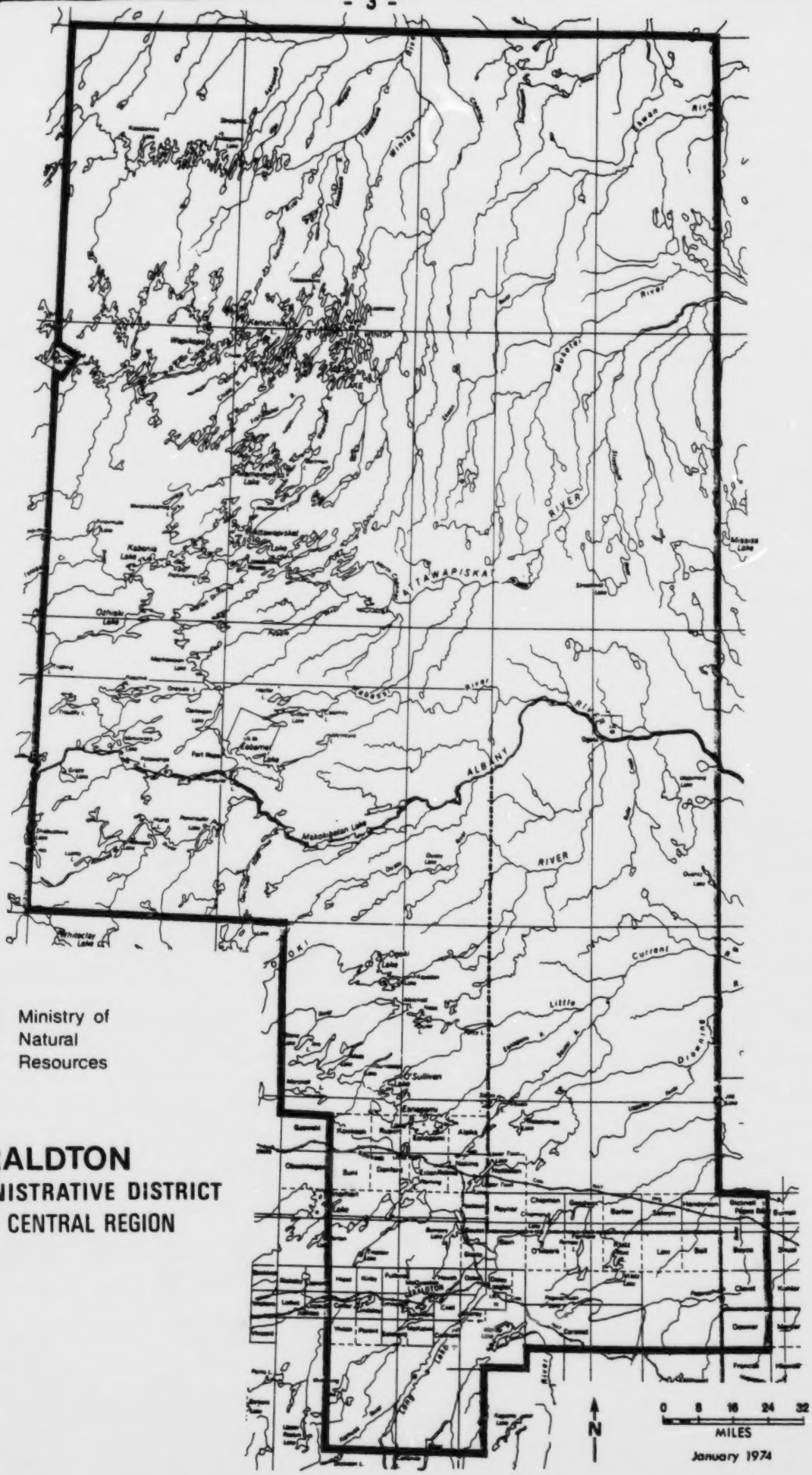
This plan adheres to current Ontario Ministry of Natural Resources policies and has been coordinated with the various other programs in this Ministry and Ministry of Tourism and Recreation to ensure a consistent and efficient approach to resource management. The principles of fisheries management outlined in the S.P.O.F. documents, and the feasibility of existing technology directed the selection of management strategies. All proposed fisheries management practices and programs will be subject to approval (if applicable) under the Environmental Assessment Act before being implemented, and documented as per the Field Environmental Planning Procedures.

The allocation of fish to Indian people under recognized Treaty Rights is an integral part of District Fisheries Management Plans. Negotiations are ongoing at Federal and Provincial levels to develop Indian Fishing Agreements. These agreements should ultimately be the guidelines for local Band fishing agreements. When Indian Fishing Agreements are reached, this plan will be revised if necessary.

FIGURE 1:

GERALDTON DISTRICT REGIONAL AND PROVINCIAL SETTING





Ministry of Natural Resources

Ontario

GERALDTON

ADMINISTRATIVE DISTRICT

NORTH CENTRAL REGION

January 1974

The G.D.F.M.P. only highlights some of the background studies and analyses undertaken during the development of the plan. The following documents, available for review at the Geraldton District Office, were prepared during the planning process:

(i) "Terms of Reference: Geraldton District Fisheries Management Plan" (O.M.N.R., 1987b)
- outlines intent of plan, the planning process, timing, and the communications plan.

(ii) "Background Information: G.D.F.M.P. (1988 - 2000)" (O.M.N.R., 1987a)
- details the fisheries resource, its current and projected use and target refinements; identifies problems and issues; and details the present fisheries management practices.

(iii) "Identification of Optional Fisheries Management Strategies and Tactics: G.D.F.M.P. (1988 - 2000)" (O.M.N.R., 1987c)
- identifies optional management strategies and tactics to overcome the problems and issues and to meet the targets.

(iv) "A Summary of Background Information and Optional Management Strategies: G.D.F.M.P. (1988 - 2000)" (O.M.N.R., 1987d)
- a published public document which summarizes reports (ii) and (iii) and formed the main basis for public review.

(v) "Summary of Public Consultation to the G.D.F.M.P. Background Information and Optional Management Strategies" (O.M.N.R., 1987e)
- summarizes efforts made to contact the public to increase awareness of the planning process and to advertise public review and consultation
- summarizes all public input received (separate written submissions, verbal public responses and questionnaires; open house evaluations).

(vi) "Analysis of Optional Management Strategies and Tactics" (O.M.N.R., 1987f)
- presents an analysis of the pros and cons of the optional management strategies and tactics; public input during the first public review period was used in the selection of the preferred options and are included in this draft plan for public consideration.

THE PLANNING PROCESS

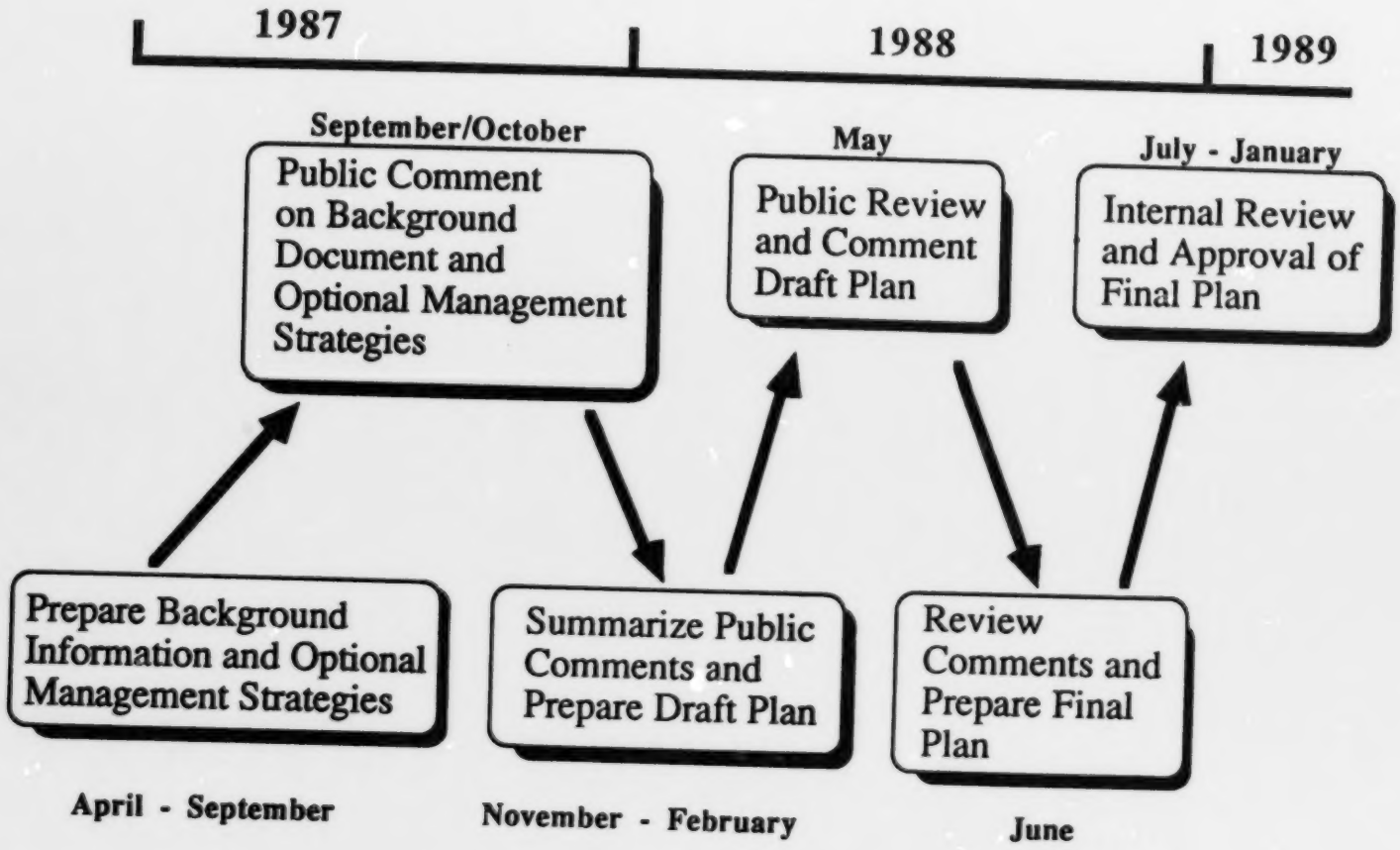


Figure 3. Schedule of the preparation of the Geraldton District Fisheries Management Plan.

2.0 DISTRICT FISHERIES PERSPECTIVE

2.1 The Fisheries Resource

There are 10,377 lakes (area of 10,039 km^2) in the District and 10,638 km (area of 598 km^2) of rivers and streams.

Approximately 97% of the watercourses flow north within the Arctic watershed, with the remainder flowing into the Great Lakes - St. Lawrence River System. The Albany River system makes up the largest drainage system in the District and roughly divides the District in half.

Of the 503 District lakes with known fish species composition, 90% can be classified as warmwater lakes while 10% can be classified as coldwater lakes. Coldwater lakes are characteristically deep, less productive and contain lake trout and/or brook trout as top predators in the fish community. Warmwater lakes are characteristically shallow, more productive and contain walleye and/or northern pike as top predators. Other fish species present in the District include lake whitefish, yellow perch, lake sturgeon, smallmouth bass and coarse fish such as suckers, ciscoes and burbot.

There are only 13 natural lake trout lakes and 20 natural brook trout lakes known in the District. Northern pike are known in 450 lakes; walleye in 296; and lake whitefish in 171. Smallmouth bass populations are found in 8 lakes, the result of stocking in the 1950's and their subsequent emigrations. Lake sturgeon are known in 32 waterbodies, covering 18% of the District's total water area.

There are 194 coldwater rivers and streams known or strongly suspected to have brook trout populations covering 5,336 km, or 42,100 ha. There are 226 warmwater rivers and streams covering 5,302 km, or 17,700 ha.

2.2 Potential Fish Yields

The estimated total potential fish yield for the District is 5,935,000 kg/yr (Table 1). The total allowable sport fish yield is 3,722,000 kg/yr, with walleye and northern pike contributing the majority (64%) from known fish community waterbodies (Table 2). Lakes provide 93% of the total potential fish yield and 90% of the total allowable sport fish yield. Major rivers and streams supply the remainder.

These estimates are based on yield predicting formulas derived from theoretical modelling of fish yields (SPOF Working Group No. 12, 1982). The potential yield is the theoretical annual sustainable harvest of fish that could be derived under optimum environmental, social and economic conditions. Data derived during lake surveys are used to calculate potential yield. The total potential yield for lakes in the District was extrapolated from surveyed lakes, although less than 3% of the lakes, or 33% of the total lake surface area in the District have been surveyed. (This extrapolation is at present the best estimate that can be made. More accurate figures will be available when a larger percentage of District waters have been surveyed). The potential yield from rivers and streams was estimated at 5.0 kg/ha/yr, while for large rivers, the estimate is 7.8 kg/ha/yr.

Allowable yield is the recommended maximum sustainable annual harvest of a particular fish species, recognizing such constraints as habitat suitability, angler preferences, social concerns and past harvesting. The allowable yield of a fish species is a fraction of the potential yield and is usually calculated by the partitioning outlined by SPOF Working Group No. 12 (1982).

Table 1: Summary of fisheries resource data for the Geraldton District

	No. of Waterbodies	Total Surface Area (ha)	Length (km)	Total Potential Fisheries Yield (kg/yr)
INLAND LAKES				
Coldwater Surveyed	27	34,246	NA	123,673
Warmwater Surveyed	219	293,624	NA	1,675,246
Coldwater Unsurveyed	25	3,611	NA	13,163
Warmwater Unsurveyed	232	59,474	NA	343,584
Unknown Warmwater	9,874	612,975	NA	3,345,402
TOTAL	10,377	1,003,930		5,501,068
MAJOR RIVERS/STREAMS				
Coldwater	194	42,100	5,336	308,004
Warmwater	226	17,700	5,302	125,928
TOTAL	420	59,800	10,638	433,932
DISTRICT TOTALS	10,797	1,063,730	10,638	5,935,000

Surveyed - intensively studied under a program such as Aquatic Habitat Inventory Program
Unsurveyed - only fish community known
Unknown - fish community unknown

TABLE 2. Known fish species data, allowable species yield and total allowable sport fish yield for the Geraldton District

Sport Fish Species	No. of Lakes	No. of Streams and Rivers	Total Known Water Area Available to Species (ha)	Allowable Species Yield (kg/ha/yr)	(kg/yr)	% of Total
Known Fish Community						
Walleye	296	212	404,452	1.78	720,817	19.4
Northern Pike	450	236	440,908	1.42	627,239	16.9
Other Sport Fish:					771,467	20.7
Lake Trout	18	nil	35,878	0.58	20,843	0.6
Brook Trout (natural)	20	194	65,657	1.36	89,320	2.4
Smallmouth Bass	8	nil	5,829	0.37	2,167	<0.1
Yellow Perch	171	nil	274,035	0.69	189,862	5.1
Lake Whitefish	171	2	357,733	1.31	469,275	12.6
Unknown Fish Community	9874	nil	612,935	2.61	1,602,477a	43.0
				Total Allowable Sport Fish Yield =	3,722,000	100.0

a. assuming total sport fish partitioning of 48%, of the 3,345,313 kg/yr total unknown potential yield

2.3 Resource Use and Projections

2.3.1 Sport Fishing

It was estimated that, in 1980, 20,400 adult anglers expended 207,000 angler days of fishing (Bedi and Clifford, 1982) and harvested 414,000 kg of sport fish, for a quality catch standard of 2 kg/angler day (O.M.N.R., 1982). The total allowable sport fish yield available to anglers at present is 3,167,500 kg.

The projected angler participation in the District by the year 2000 is estimated at 22,200 adult anglers, expending 223,000 angler days and harvesting 446,000 kg of sport fish.

2.3.2 Commercial Fishing

In 1986, 29 gill net and 3 impounding gear licences were issued on 31 waterbodies. The total commercial harvest was 52,719 kg, worth $122,162 from a total quota of 461,275 kg worth an estimated $1,057,000.

The projected harvest by the commercial food fishery in the year 2000 will probably reflect historical harvests of under 150,000 kg, from a present allocation of 461,275 kg quota.

2.3.3 Bait - Fishing

In 1985, 28 commercial bait-fish harvest licences on 33 whole blocks, and 33 bait-fish dealer's licences were issued. The reported harvest was 63,971 dozen bait-fish, worth $51,606.

The projected harvest of bait-fish will be to meet the demand of 67,700 dozen in the year 2000. The present resource of bait-fish can easily supply this demand.

2.3.4 Tourist Operations

In 1987, there were 56 tourist operators in the Geraldton District, which catered to anglers, with 141 outpost camps, 7 fly-in lodges and 27 road accessible lodges on 130 waterbodies. The actual guest capacity is estimated at 1,546 beds.

In 1986, tourist resort owners and fly-in outfitters brought in gross revenues of between $3.9 and $4.4 million in the Geraldton District.

Potential exists for tourism development in this District. At this time, the policy (LM 8.03.01, 1982) requires that an operator be a resident of the area north of the Albany River for any disposition to the tourist industry there.

2.3.5 Indian People

There are ten Indian communities in the District, five of which have reserve status, with a population of 3,028 people (1986). The Indian subsistence harvests were recalculated using updated information obtained from the Draft Plan of the Sioux Lookout District Fisheries Management Plan (O.M.N.R., 1987). South of the Albany River, the Indian subsistence consumption level is estimated at 18 kg of fish/person/yr. The subsistence consumption level for Fort Hope, Ogoki Post and Lansdowne House is estimated at 30 kg/person/yr, while for Summer Beaver, Webequie and Kasabonika,

it is estimated at 40 kg/person/yr. In 1986, the Indian subsistence harvest was estimated at 93,280 kg.

The projected Indian population is 3,207 people in the year 2000, with an Indian subsistence harvest of 98,784 kg.

2.3.6 Non-Consumptive Users

The number of non-consumptive users is presently unknown. Fish viewing areas available in the District are confined to spring spawning runs of walleye, northern pike and suckers, and to fall spawning runs of lake whitefish.

2.3.7 Other Users

O.M.N.R. samples various fish populations to submit fish flesh for contaminant analyses by the Ontario Ministry of the Environment.

Geraldton District has made use of outside agencies to conduct fisheries studies. In addition, scientific institutions such as the Royal Ontario Museum receive small fish collections from aquatic habitat inventories for updating and mapping of fish species distributions in Ontario.

Fish have been donated to the Geraldton Composite High School for educational purposes.

2.4 Target Refinement

Table 3 compares the current and projected use of the fisheries resource with the S.L.U.P. targets for the Geraldton District.

The target for the Indian subsistence fishery has not been addressed at this time, pending ongoing negotiations for Indian fishing agreements.

The refinement of targets for the sport and commercial fisheries involves two steps. Firstly, the projected use is compared to the S.L.U.P. targets, and if the projected use is significantly different, it becomes the target. Secondly, the target determined in the first step is compared to the potential yield. If the target is less than the potential yield, then this target becomes the interim refined target. If the target is more than the potential yield, then the potential yield becomes the target.

The bait-fish target is based on angler projections.

The lake trout target is the allowable lake trout yield.

The sport fish target is to meet the anticipated demand in the year 2000 of 223,000 angler-days, with a quality standard target of 2 kg/angler-day, or 446,000 kilograms of fish.

The commercial fish target is the S.L.U.P. allocated quota of 487,000 kg of commercial food fish. This target is currently under review, as historical harvests have been well below allocations (quotas) north of and including the Albany River. As quotas are realigned to reflect historical harvests, the target will require an amendment in the future.

The bait-fish target is to encourage the bait-fish industry to meet the projected demand of 67,700 dozen bait-fish in the year 2000, through natural and artificial culture.

The lake trout target is to harvest a maximum of 20,840 kg of lake trout (0.58 kg/ha/yr) in the year 2000.

TABLE 3: Target refinements for the year 2000

	Potential Yield	Current Use	Projected Use	S.L.U.P. Targets	Interim Refined Targets
Subsistence Fishery	3,260,725 kg	93,280 kg	98,784 kg	not addressed	not addressed
Sport Fishery[e]		414,000 kg 207,000 angler days	446,000 kg 223,000 angler days	420,000 kg 210,000 angler days	446,000 kg[c] 223,000 angler days[c]
Commercial Food	461,275 kg[a]	461,275 kg[a]	461,275 kg[a]	487,000 kg	487,000 kg
Fishery Allocations	2,213,000 kg[b]				
Commercial Bait Fishery	unknown	64,000 dozen	67,700 dozen	to meet demand	67,700 dozen
TOTAL	5,935,000 kg	968,555 kg	1,006,059 kg	907,000 kg	933,000 kg
Lake Trout (18 lakes, 35,878 ha)	20,843 kg 0.58 kg/ha	d	d	0.25-0.75 kg/ha	20,843 kg 0.58 kg/ha

a. allocated quotas of sport fish to commercial food fisheries (i.e. present quotas)

b. potential coarse fish yield

c. the interim refined targets for the sport fishery are at present District targets and will be proposed for amendment to the Strategic Land Use Plan during the next revision.

d. current and projected harvests of lake trout not known.

e. sport fish use in kilograms are based on a quality catch standard of 2 kg/angler day (O.M.N.R., 1982)

2.5 Other Information

Other resource activities and plans directly or indirectly influence fisheries management and availability of fisheries resources to user groups. These include access, timber extraction, mining activities, impoundments and diversions, log driving, provincial park plans, highway corridor plans, new cottage initiatives, airborne pollutants and miscellaneous activities.

I Access

(a) Existing Road Networks

In the southern portion of the District, the Trans Canada Highway #11 crosses the District from east to west. Three provincial highways are also located here. Highway #625 travels south from Highway #11 to Caramat. Highway #584 extends from just south of Geraldton, north to Nakina. Highway #643 extends west of Highway #584, through Aroland to the O'Sullivan Lake area.

The majority of access road networks exist south of the Canadian National Railway (C.N.R.) line (from the western District boundary to Nakina, and the previous existing link between Nakina and Pagwa River). North of the C.N.R. line, resource access roads are located mainly south of latitude 50° 30'.

At present, over 150 access points on lakes and rivers are located in the District. The access point at "Second Bridge" on Kenogamisis Lake was upgraded in 1987 through funds generated by the sale of Ontario resident sport fishing licences.

(b) Future Road Networks

Resource access road networks are expected to greatly increase north of the C.N.R. line and south of the Little Current River by the year 2000. Expansion of roads is also planned south of the C.N.R. line, especially in the eastern portion.

II Timber Extraction

The Geraldton District contains all or part of twelve management units. Timber extraction currently occurs in the Longlac, Nakina and Lake Nipigon Forests, Big Pic and Geraldton Management Units.

The Nakina and Longlac Forests, and the Geraldton Management Unit are licenced by Kimberly-Clark of Canada Limited, with Third Party Agreement with Weldwood of Canada Limited and Lecours Lumber Co. Limited.

To ensure integrated resource management, "Areas of Concern" pertaining to the fisheries resource, will be protected following the "Timber Management Guidelines for the Protection of Fish Habitat" (O.M.N.R., 1988b), and the "Environmental Guidelines for Access Roads and Water Crossings" (O.M.N.R., 1988a).

III Mining Activities

There is increasing potential for mining activities in the near future near Long Lake and Kenogamisis Lake, primarily for gold ore extraction.

IV Impoundments and Diversions

There are six dams located in the District. Water fluctuations can be detrimental to fisheries resources by degrading fish habitat and decreasing productivity of fish populations.

The Kenogami River dam and diversion, constructed from 1937 - 1939 (Ontario Hydro, O.M.N.R., Kimberly-Clark of Canada Limited) is used to divert the flow of the Kenogami River into Long Lake. The dam regulates the water level of Long Lake for the hydroelectric Aguasaubon Lake dam and for log driving raw pulp logs (ice-out until November) by Kimberly-Clark of Canada Ltd. to Terrace Bay. The water levels of the Kenogami River system (including Ogahalla and Chipman Lakes) and Long Lake are affected by the diversion and drawdowns. During the drawdown of Long Lake, the rubble shoreline is often high and dry. The rubble shoreline has potential for being lake trout and lake whitefish spawning grounds. Annually, 122,716 hectare-metres of water (or 1.23 km^3) are diverted through Long Lake (O.M.N.R., 1981).

The five other dams in the District are found on Kenogamisis Lake, McKay Lake, Needle Creek, Sweezy Creek and Marshall Lake.

The Waboose Dam, located in the Nipigon District on the Ogoki River, was constructed by Ontario Hydro in 1943. This dam diverts the flow of the Ogoki River system over the height of land into Lake Nipigon. Annually, 364,198 hectare-metres (or 3.64 km^3) are diverted (O.M.N.R., 1981). Great water fluctuations have been observed in this District on the Ogoki River, and on Ogoki, Kayedon, Harrogate, Patience and Esser Lakes.

V Log Driving

Past log driving has occurred on the following waterbodies in the District: Needle Creek, Kenogamisis River, Burrows River, Kenogami River, Pic River, Namewaminikan River, and Turkey Lake.

Log driving on Long Lake has been conducted since 1940, by Kimberly-Clark of Canada Ltd. Up to 280,000 cords of pulpwood were rafted down Long Lake annually to the mill in Terrace Bay (O.M.N.R., 1981), until 1986. Presently, estimates are under 100,000 cords annually. The company is actively investigating the cessation of log driving in 1989.

VI Park Plans and Canoe Routes

The interim management statements for the Albany River, Otoskwin-Attawapiskat River, Little Current River, and Winisk River provincial park plans restrict new commercial tourism developments. New commercial fishing licences are restricted in the Otoskwin-Attawapiskat River park planning area. The interim management statement for the Winisk River Provincial Park expresses the need for maintaining and protecting the brook trout sport fishery in the Winisk River.

Ten major canoe routes are located in the District. Nine of these have been advertised in the "Canoe Routes of Ontario", and fishing effort on these routes is expected to be increased as a result of advertising.

VII Highway Corridor Plan

This plan has been developed to promote and assess the potential for tourism development (lodges) along the corridor of the Trans Canada Highway #11. Lodges that may be located adjacent to waterbodies are expected to have a greater impact on fisheries resources by anglers in this area.

VIII New Cottage Initiative

At present, sites are being considered for cottage development in the Geraldton District. Some sites may require access road construction and, therefore, availability of fisheries resources to anglers may increase.

IX Airborne Pollutants

Acidic precipitation is of minor concern in the District. Only seven lakes of 75 sampled in the District have a low sensitivity to acid loading (Tsang et al, 1986).

The rate of influx of other airborne pollutants in the District is unknown.

X Miscellaneous Activities

The Trans Canada natural gas pipeline runs across the District in a very similar path as the Trans Canada Highway #11. Bell Canada is presently installing a fibre optics line along the right-of-way of Trans Canada Pipeline Ltd. across the District. As this line crosses near walleye spawning sites and across brook trout streams and rivers, protective measures and, where necessary, rehabilitation will be imposed to minimize any adverse affects to the fisheries habitat.

A plan exists for the Polar Gas combined pipeline system which is proposed to extend from south of Patte Lake in a southeast direction to Longlac. There is no indication of this plan being initiated in the near future.

3.0 MANAGEMENT DIRECTION

The chart in Figure 3 illustrates the development of fisheries management direction. From the broad fisheries management objective, four specific objectives are developed (sport fish, commercial fish, lake trout, and bait fish management).

Targets which quantify demands by the year 2000 are developed for each of these specific objectives.

Strategies are developed to achieve targets. A strategy is a course of action designed to meet the target, and to overcome particular problems or issues which may impede the achievement of the stated target.

The accomplishment of strategies is through tactics or specific actions that cumulatively contribute toward the achievement of targets, and thereby to the attainment of objectives.

The tactics are then priorized as to their necessity over the period of this plan, which leads to the 5-year implementation schedule of tactics.

3.1 General Fisheries Management Objective

The broad objective for fisheries management in Ontario is:

> "To protect, rehabilitate, enhance and maintain Ontario's fish communities and their environment to provide an optimum contribution of fish, fishing opportunities and associated benefits to society."
>
> (O.M.N.R. 1982)

This broad objective identifies the quality of fish communities to be managed for optimum contributions to society.

The broad objective consists of four general fisheries management principles.

These principles are:

(a) Fish Communities Principle:
"To secure desirable fish communities in the waterbodies of the District based on a foundation of stable self-sustaining stocks."

(b) Water Quality and Habitat Principle:
"To secure an environment which will sustain unimpaired fish communities and those ecosystem components on which they depend."

(c) Contribution to Society Principle:
"To provide an optimum contribution of fish, fishing opportunities and associated benefits to meet society's needs for: wholesome food, recreation, employment and income, and a healthy human environment."

(d) Public Awareness and Scientific Knowledge Principle:
"To contribute to society's understanding of fish ecosystems and their interdependence with man."

To ensure integrated resource management, the fisheries management strategies are developed with recognition of relevant management strategies of other resource programs.

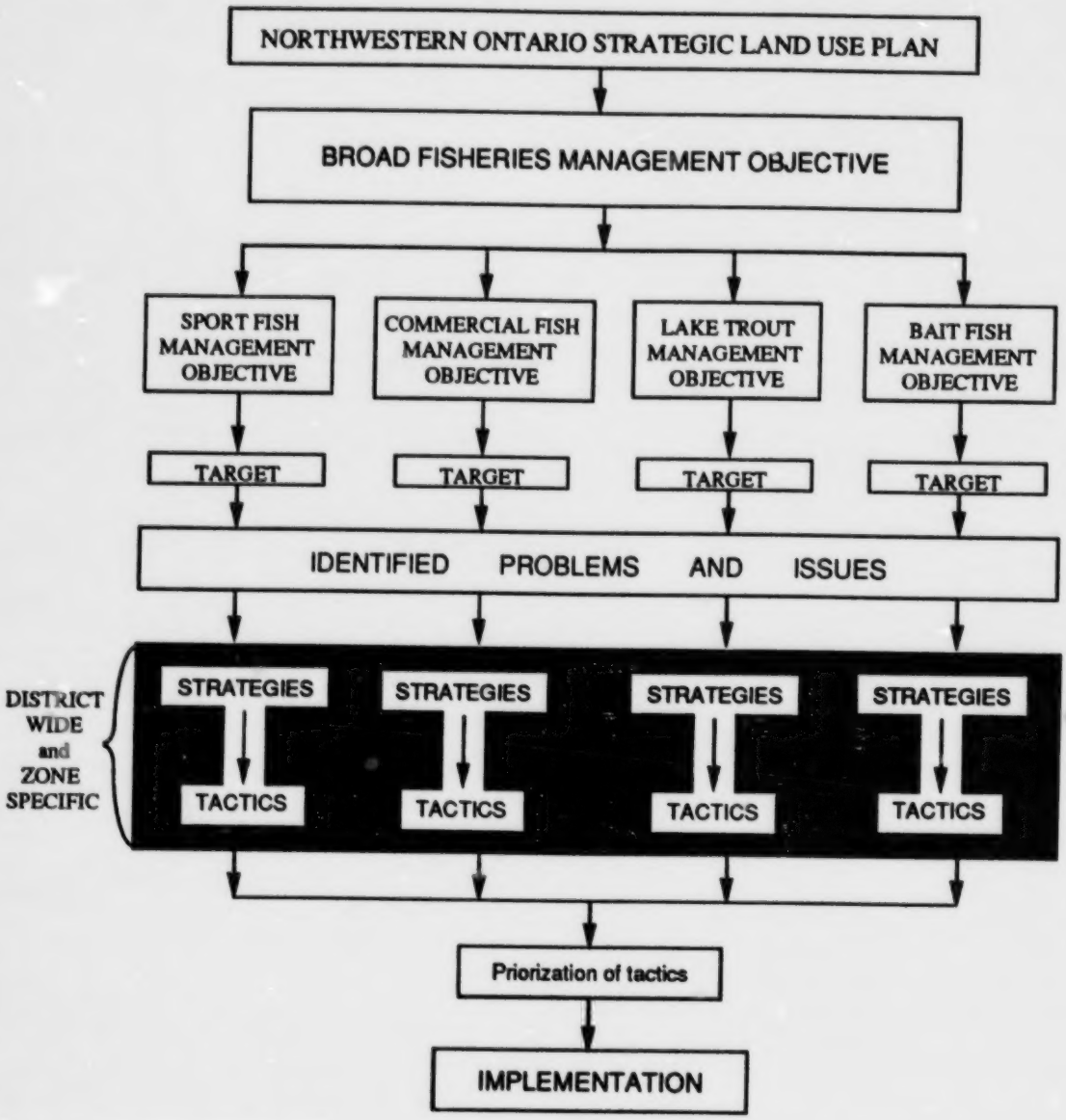


Figure 4. Flowchart to illustrate the development of fisheries management direction.

3.2 Specific Fisheries Management Objectives and Targets

3.2.1 SPORT FISH MANAGEMENT

Objective

To meet the demand for sport fishing consistent with the limits of an optimum sustained yield.

Target

To meet the anticipated demand in the year 2000 of 223,000 angler-days, with a quality standard target of 2 kg/angler-day, or 446,000 kilograms of fish.

Discussion

In 1980, 20,400 anglers expended 207,000 angler-days and harvested 414,000 kg of fish. The most important sport fish in the District in terms of numbers caught and kept, and in total harvest (weight) is walleye. The second most important sport fish is northern pike. Both of these sport fish species are widely distributed across the District.

Two other main sport fish species sought by anglers in the District are lake trout and brook trout (see 3.2.3 Lake Trout Management). Although there are many streams and rivers in the District supporting brook trout, the majority of these remain inaccessible to the general angler. As new brook trout populations become road/snowmobile accessible, they experience high fishing effort by anglers. As a result some stocks are being overharvested. High quality brook trout populations of the Albany River and Winisk River have experienced overharvesting by anglers.

Other species caught include smallmouth bass, splake, lake whitefish and lake sturgeon.

The total potential sport fish yield in the District is 3,722,000 kg/yr and the projected target is 446,000 kg/yr. Although the projected target is only 12% of the potential yield and would indicate underutilization, there are areas where the resource is stressed and in fact may be overharvested. The target is a District-wide average. Fishing effort is largely concentrated on road accessible waterbodies and those lakes with tourism development. Approximately 16% of the water area is road accessible, concentrated in the extreme southern portion of the District.

In road accessible areas, brook trout and splake have been stocked to deflect some angler effort from overharvested natural brook trout populations and to increase fishing opportunities.

3.2.2 COMMERCIAL FISH MANAGEMENT

Objective

To encourage the harvest of commercial fish when it is biologically and economically feasible.

Target

The allocation is a S.L.U.P. target of 487,000 kg of commercial food fish. The District harvest target is under review.

Discussion

This target is currently under review as historical harvests have been well below allocations (quotas) north of and including the Albany River. As quotas are realigned to reflect historical harvests, the target will require an amendment in the future.

In 1986, thirty-one lakes were licenced for commercial food fishing with a total quota of 461,275 kg and an approximate value of $1.06 million. Only 52,719 kg (11.4% of the total quota) were harvested for a value of $122,162 (11.6% of total value).

The vast majority of commercial fishing activity occurs north of the Albany River by Indian fisheries. Indian fisheries accounted for 91.8% and 81.6% of the District's quota and harvest in 1986, respectively. Lake sturgeon and walleye are the target species of the Indian fisheries.

Non-Indian fisheries operate south of the Albany River. Here, the quotas are largely restricted to lake whitefish, with winter gill net licences having minimal walleye and northern pike incidental quotas.

In 1986, only 2,147 kg of coarse fish (suckers, burbot and ciscoe) were reported harvested from the District.

3.2.3 LAKE TROUT MANAGEMENT

Objective

To provide for the maintenance, protection and enhancement of lake trout populations, and to provide recreational angling opportunities to the general public for this species, based on an optimum sustained yield.

Target

To harvest a maximum of 20,840 kg of lake trout in the year 2000.

Discussion

There are only 18 natural lake trout lakes in the District (less than 1% of the Province's supply), covering 35,878 ha, and capable of sustaining 20,840 kg/yr (0.58 kg/ha/yr). Lake trout are sensitive to angler overexploitation and to degradation of their habitat.

Eleven lake trout lakes are road/snowmobile accessible. The remaining seven are remote and anglers fish them almost entirely through tourist operators.

Presently, one small lake trout lake has been overharvested (Yucca Lake) and one other lake (Grehan Lake) shows signs of past overharvesting. The completed questionnaires during the first public review period revealed that lake trout are the third most valued sport fish in the District, after walleye and northern pike.

Lake trout lakes are considered separately since lake trout habitat protection is a high priority in northern Ontario. (The protection of lake trout habitat is provided for in resource development guidelines).

3.2.4 BAIT-FISH MANAGEMENT

Objective

To encourage the harvest of bait-fish where it is biologically and economically feasible.

Target

To encourage the bait-fish industry to meet the projected demand of 67,700 dozen bait-fish in the year 2000, through natural and artificial culture.

Discussion

Presently, about 64,000 dozen bait-fish are harvested and sold each year. The resource of bait-fish exceeds the projected demand. Seventy-four whole blocks (296 quarter blocks) are presently available for licencing. Currently, 32 whole blocks are licenced (43% of available blocks). In addition, several of the licenced blocks are being underutilized. Since no major problems exist in the bait-fish industry at present, the short-term strategy will be to maintain the status quo, with the long-term strategy of increasing utilization and efficiency.

3.3 Problems and Issues

Five problems and issues that affect the utilization and sustainability of the fisheries resource in the Geraldton District have been identified. Public input to the first public review period expanded the user conflicts issue. Other problems and issues that the public identified had previously been identified by the planning team.

I Problem/Issue: Need of Fisheries Management Information.

There is a present need for more fisheries management data to:

- provide additional input to plans (timber, mining, hydro, pipeline, municipal, access, etc.);
- assess the utilization of the fisheries resource by the various user groups (fishing effort, success rates and overall harvest);
- assess the quality and health of particular fish populations (spawning, representative age classes, parasites, etc.);
- address other management decisions (stocking, rehabilitation, etc.).

II Problem/Issue: Fish Habitat Degradation.

The degradation of fisheries habitat adversely affects the fisheries resource. Waterbodies which have been degraded by alterations to fisheries habitat may not be producing at their estimated biological potential and/or may affect human consumption of fish. These alterations include nutrient loading, contaminants, water crossings, water-level fluctuations and log drives.

III Problem/Issue: Need of Increased Public Awareness and Understanding.

Much of the public is not familiar with fundamental concepts of fisheries management such as:

- the need for regulations and concepts of fisheries biology;
- the necessity of protecting, maintaining, rehabilitating and enhancing fish habitat and populations;
- techniques to maintain quality fishing;
- the need to utilize less desirable sport fish and coarse fish to maintain community balance. Many anglers conceive the fisheries resource as unlimited, resulting in localized overfishing.

IV Problem/Issue: Loss of Fish and Fishing Opportunities.

The loss of fish and fishing opportunities issue in the District includes the problems of:

- overfishing lake trout in Yucca Lake;
- the lack of coldwater species angling opportunities (there are only 18 natural lake trout and 20 natural brook trout lakes in the District);
- natural brook trout populations in District rivers are very localized and some have been subjected to excessive harvests (Albany River, Winisk River, Kawashkagama River);
- undesirable fish species introductions (smelt have been introduced illegally into Klotz Lake and possibly other lakes; yellow perch, northern pike and walleye have been illegally introduced into stocked brook trout lakes);
- underutilizing sport fish species such as northern pike, yellow perch and lake whitefish;
- natural mercury contamination
- inaccessibility to the majority of the lakes and rivers in the District by road.

V Problem/Issue: User Conflicts.

When a fisheries receives increasing demands by various user groups, conflicts for use often result. The following conflicts exist to some degree in the Geraldton District: between day use and remote tourism; between tourism, day use and Indian subsistence; between commercial fishing and tourism; and between local and non-resident anglers.

Presently, the allocation to commercial food fishing does not allow for an expansion in remote sport fishing opportunities north of the Albany River.

3.4 STRATEGIES AND TACTICS

The Geraldton District is being divided into zones to reflect different combinations of strategies and tactics.

Fisheries management strategies must be applied selectively based on:

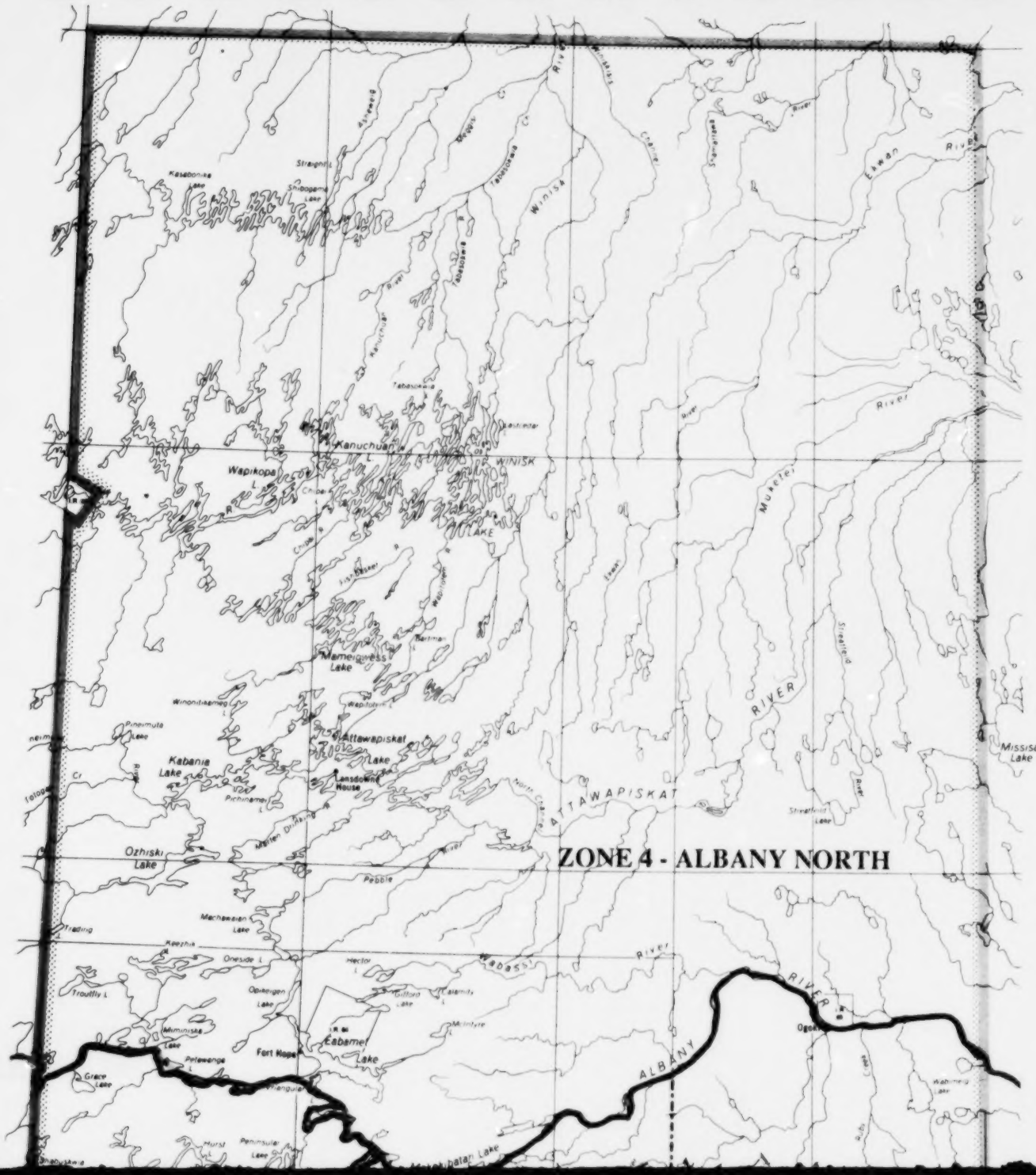
- road accessibility is concentrated in the extreme southern portion of the District;
- resource extraction activities and other land use activities are predominantly concentrated in the extreme southern portion of the District;
- problems and issues differ significantly across the District;
- the distribution of fisheries resource users varies greatly across the District;
- there is an unequal distribution of fish species across the District;
- the logistics of achieving strategies requires that different tactics be employed (i.e., operating costs increase steadily from the southern boundary of the District, to the northern boundary).

The first subsection below describes those strategies and tactics which are applicable across the District. The proceeding four subsections indicate the management intent, description, resource use, strategies and tactics applicable to each specific zone.

3.4.1 DISTRICT WIDE STRATEGIES AND TACTICS

Fisheries management strategies and tactics which are to be applied across the Geraldton District (i.e., are not specific to particular fisheries management zones) are described here. Zone specific strategies and tactics are presented in sections 3.4.2, 3.4.3, 3.4.4 and 3.4.5.

All tactics within strategies have been priorized, reflecting District needs, public input and feasibility. The priorities reflect the greater need of tactics to be achieved, which is dependent on funding sources received.



GERALDTON DISTRICT
FISHERIES MANAGEMENT PLAN
Management Zones

Zone Boundary
Division Boundary

DISTRICT WIDE STRATEGIES AND TACTICS

- Produce a District tabloid.
- Increase public awareness and understanding of fisheries issues.
- Encourage volunteer assistance in the fisheries program.
- Implement a boat cache policy.
- Produce a background fishing opportunity map for public distribution.
- Promote lake whitefish lakes available for commercial harvest.

ZONE 4 - ALBANY NORTH

Management Intent

- Maintain the quality of sport fish, commercial fish and lake trout fishering opportunities.
- Encourage the expansion of Indian tourism developments, through conversion of commercial fishing quotas.

Strategies and Tactics*

- Implement a **lake trout** trophy regulation on Troutfly Lake where only <u>one</u> lake trout may be greater than 56.0 cm in a possession limit of <u>three</u>.
- Reduce the **lake trout** possession limit on Merpaw Lake to <u>one</u> lake trout.
- Implement a **brook trout** maximum size limit where only <u>two</u> brook trout may be greater than 40.0 cm in a possession limit of <u>five.</u>
- Implement a **brook trout** trophy regulation on the Albany river where the possession limit is <u>two</u> brook trout and <u>all</u> must be greater than 51.0 cm.
- Implement a **northern pike** trophy regulation where only <u>one</u> northern pike may be greater than 80.0 cm in a possession limit of <u>six.</u>

ZONE 3 - OGOKI RIVER

Management Intent

- Maintain the quality of sport fish, commercial fish and lake trout fishing opportunities.
- Encourage the expansion of remote fishing opportunities.

ZONE 2 - LITTLE CURRENT RIVER

Management Intent

- Maintain the quality of sport fish, commercial fish and lake trout fishing opportunities.
- Protect and maintain the existing remote fishing opportunities.
- Maintain the existing, and institute new day use fishing opportunities.

Strategies and Tactics*

- Implement a **lake trout** trophy regulation on Esnagami, O'Sullivan and Superb Lakes where only <u>one</u> lake trout may be greater than 56.0 cm in a possession limit of <u>three</u>.
- Implement a **brook trout** maximum size limit where only <u>two</u> brook trout may be greater than 40.0 cm in a possession limit of <u>five</u>.
- Extend the **brook trout/splake** open season in <u>selected</u> stocked brook trout and splake lakes.
- Implement a **brook trout/splake** possession limit of <u>five</u> brook trout and/or splake on <u>specific</u> stocked lakes.
- Implement a **northern pike** trophy regulation where only <u>one</u> northern pike may be greater than 80.0 cm in a possession limit of <u>six</u>.
- Implement an adult **walleye** transfer program.

* please refer to Implementation Schedule for complete list of Strategies and Tactics.

40.0 cm in a possession limit of <u>five</u>.

- Implement a **brook trout** trophy regulation on the Albany river where the possession limit is <u>two</u> brook trout and <u>all</u> must be greater than 51.0 cm.
- Implement a **northern pike** trophy regulation where only <u>one</u> northern pike may be greater than 80.0 cm in a possession limit of <u>six</u>.

ZONE 3 - OGOKI RIVER

Management Intent

- Maintain the quality of sport fish, commercial fish and lake trout fishing opportunities.
- Encourage the expansion of remote fishing opportunities.
- Restrict commercial fishing to Ogoki and Shabuskwia Lakes, targetting for lake whitefish and coarse fish.

Strategies and Tactics*

- Implement a **lake trout** trophy regulation on Luella, Opichuan, and South Lakes where only <u>one</u> lake trout can be greater than 56.0 cm in a possession limit of <u>three</u>.
- Reduce the **lake trout** possession limit on Faircloth Lake to <u>one</u> lake trout.
- Implement a **brook trout** maximum size limit where only <u>two</u> brook trout may be greater than 40.0 cm in a possession limit of <u>five</u>.
- Implement a **northern pike** trophy regulation where only <u>one</u> northern pike may be greater than 80.0 cm in a possession limit of <u>six</u>.

ZONE 1 - KENOGAMI RIVER

Management Intent

- Maintain the quality of sport fish and lake trout fisheries.
- Ensure multi-use fishing opportunities.

Strategies and Tactics*

- Implement a **lake trout** trophy regulation on Charon, Fernow, McKay, and Pagwachuan Lakes where only <u>one</u> lake trout can be greater than 56.0 cm in a possession limit of <u>three</u>.
- Reduce the **lake trout** possession limit on Grehan, Little Pic, Sun and Yucca Lakes to <u>one</u> lake trout.
- Extend the **brook trout/splake** open season in <u>selected</u> stocked brook trout and splake lakes.
- Implement a **brook trout/splake** possession limit of <u>five</u> brook trout and/or splake on <u>specific</u> stocked lakes.
- Implement a **smallmouth bass** season.

DISTRICT WIDE STRATEGIES AND TACTICS

(S.F.: Sport Fish Management; C.F.: Commercial Fish Management; L.T.: Lake Trout Management; B.F.: Bait Fish Management)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(I) Need of fisheries management information	1. Collect information on habitat inventory, harvest and population assessment	- implement a mandatory registration of cached boats	S.F.,C.F.,L.T.,B.F.	Medium
		- continue to encourage outside agencies and research groups to collect information as opportunities arise	S.F.,C.F.,L.T.,B.F.	Medium
		- encourage voluntary creel surveys	S.F.,L.T.	Medium
		- survey lakes on a need-to-know basis under the Aquatic Habitat Inventory program	S.F.,C.F.,L.T.,B.F.	Low
(II) Fish habitat degradation	1. Identify the extent of habitat degradation, prevent further degradation and institute mitigative measures to protect the fisheries resource	- audit past and present fisheries protective prescriptions as they apply to "areas of concern"	S.F.,C.F.,L.T.,B.F.	High
		- work with resource users and industries to institute mitigative measures to maintain or enhance the fisheries resource	S.F.,C.F.,L.T.,B.F.	High
		- areas of concern pertaining to the fisheries resource will be protected following the "Timber Management Guidelines for the Protection of Fish Habitat and the Environmental Guidelines for Access Roads and Water Crossings	S.F.,C.F.,L.T.,B.F.	High
		- increase enforcement of laws/guidelines	S.F.,C.F.,L.T.,B.F.	High
		- encourage volunteer assistance for rehabilitation projects	S.F.,C.F.,L.T.,B.F.	Medium
(III) Need of public awareness and understanding	1. Increase public awareness and understanding of fisheries management concepts and pertinent information	- produce an annual tabloid for public distribution which outlines the Geraldton District's fisheries programs, addresses all problems and issues, advises of new regulations, etc.	S.F.,C.F.,L.T.,B.F.	High
		- make material and resource people available for increase awareness (example: schools, fish and game clubs, interest groups)	S.F.,C.F.,L.T.,B.F.	High
		- provide awareness and training to resource users on how to prevent and/or minimize degradation of fish habitat	S.F.,C.F.,L.T.,B.F.	High
		- investigate a Report-A-Poacher program with a financial reward (to be run by an independent outside agency)	S.F.,C.F.,L.T.,B.F.	Low

DISTRICT WIDE STRATEGIES AND TACTICS (continued)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(IV) Loss of fish and fishing opportunities	1. New fisheries division	- implement a new fisheries division to accommodate more detailed regulations for better fisheries management in the Geraldton District	S.F.,C.F.,L.T.	High
	2. Maintain and enhance trout fishing opportunities over the long term	- expand brook trout and splake stocking to additional suitable lakes and increase stocking densities to provide put-and-take fisheries	S.F.	High
		- implement a daily catch and possession limit of 3 lake trout, where only one may be greater than 56.0 cm. in total length. [from "large" (> 250 ha) lake trout lakes (McKay, Pagwachuan, Fernow, Charon, Esnagami, O'Sullivan, Superb, Opichuan, Luella, I-100 (South), Troutfly)]	L.T.	High
	3. Increase the catch and harvest of underutilized sport fish and commercial fish	- use annual tabloid to address underutilization of sport fish (northern pike and yellow perch) and commercial fish (suckers, ciscoe)	S.F.,C.F.	Medium
		- produce a background fishing opportunity map for public distribution	S.F.	Medium
		- promote good quality lake whitefish lakes open for commercial fishing licences	C.F.	Medium
		- provide a brochure and/or video which illustrates the techniques of filleting northern pike	S.F.	Low
	4. Maintain and enhance walleye fishing opportunities	- implement regulations to protect and maintain walleye fisheries where and when necessary (e.g. sanctuaries)	S.F.	High

DISTRICT WIDE STRATEGIES AND TACTICS (continued)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(V) User Conflicts	1. Reduce the potential for conflicts between fisheries users	- provide awareness through annual tabloid	S.F.,L.T.,C.F.	High

3.4.2 ZONE 1 - KENOGAMI RIVER

3.4.2.1 Management Intent

Maintain the quality of sport fish and lake trout fisheries.

Provide additional trout fishing opportunities.

Ensure multi-use fishing opportunities (e.g. day use, new commercial tourism, cottaging, bait fishing, commercial fishing).

3.4.2.2 Zone Description

(a) Location: This is the southernmost zone in the District. It is located south of the C.N.R. line from the District's western boundary, along the old C.N.R. line location to the District's eastern boundary. It includes Lower Twin Lake and Cordingley Lake.

(b) Population: Includes the communities of Geraldton (and surrounding townsites), Longlac, Nakina, Caramat, Longlac Reserve #58 and Longlac Reserve #77. The population in Zone 1 is 6,993.

(c) Access: The majority (77%) of the zone is road accessible. It is bisected north and south by Highway #11, and east and west by Highway #584. There are about 700 km of all-weather logging roads.

(c) Use of Zone

(i) Anglers:
- majority of angling conducted on road accessible waterbodies
- angler origin from recent creel surveys: 31% local, 21% non-local, 48% non-residents

(ii) Tourism Development:
- 10 outpost camps (bed capacity 52). (7% of outpost camps in District)
- 25 lodges (bed capacity 500). (74% of lodges in District)

(iii) Commercial Fishing:
- 3 lakes licenced for lake whitefish and coarse fish only

(iv) Bait Fishing:
- 60 quarter blocks licenced (80% of licenced blocks in District)

(v) Indian Subsistence:
- permits have been issued on 8 lakes

(vi) Cottages:
- 277 cottages, road accessible on 9 lakes (42% on Wildgoose Lake)
- 14 remote cottages on 7 lakes

(vii) Timber Extraction:
- presently largest resource activity in Zone 1
- includes portions of Longlac, Nipigon and Hearst F.M.A.'s; Geraldton and Big Pic, company management units; Steel River and Onaman, crown management units.

(viii) Mining:
- prospecting very active across Zone 1
- gold extraction planned near Kenogamisis Lake and Long Lake.

(e) Nature of Fisheries Resource

	Zone 1	% of District Total
No. of Lakes	982	9
No. of Rivers/Streams	124	30
Total Surface Area	60,276 ha	6
Total Potential Yield	602,544 kg/yr	10

Table 4 lists data of known fish species waterbodies in Zone 1. Half of the known lake trout lakes and 54% of the allowable lake trout yield in the District are located here. About 90% of stocked trout lakes are found here.

3.4.2.3 Resource Use Influencing Fisheries Management

(a) Accessibility in this zone as a result of timber extraction activities is expected to increase moderately to the year 2000.

(b) Mining extraction activities, if reinitiated, will result in expanding the contaminant monitoring program.

(c) Expansion of cottaging may increase accessibility to fisheries resources.

(d) Trans Canada Highway Development Plan assists operators in locating new feasible tourism developments (main base lodges) along Highway #11.

(e) Long Lake Waterfront Development Plan proposed by the town of Longlac may influence fisheries management of Long Lake if implemented.

(f) Activities such as installations of natural gas pipeline and telephone cable, hydroelectric and water diversion plans, etc., require adequate protection for "areas of concern".

3.4.2.4 Strategies and Tactics

The fisheries management strategies and tactics that are designed to address the specific problems/issues of Zone 1 are indicated in the following chart.

TABLE 4 - Known fish species data for Zone 1

Species	Number of Lakes	Lake Area (ha.)	Length of Rivers (km)	River Area (ha.)	Allowable Yield (kg/yr)
Lake Trout	9	20,354.7	---	---	11,195
Brook Trout	9	8,357.0	1,088	1,628	5,648
Walleye	130	56,396.2	536	2,127	97,127
Northern Pike	242	73,636.2	655	2,636	106,647
Lake Whitefish	56	55,396.2	---	---	63,495
Smallmouth Bass	3	4,308.4	---	---	1,206
Lake Sturgeon	5	4,279.1	60	515	Unknown
Stocked Trout	13	436.2	---	---	1,309

ZONE 1 - KENOGAMI RIVER: STRATEGIES AND TACTICS

(S.F.: Sport Fish Management; C.F.: Commercial Fish Management; L.T.: Lake Trout Management; B.F.: Bait Fish Management)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(I) Need of fisheries management information	1. Collect information on habitat inventory, harvest and population assessment	- conduct creel survey programs on waterbodies which have potentially stressed fish populations and maintain a trend-through-time data series (Kenogamisis and Wildgoose lakes)	S.F.	High
		- conduct winter creel survey programs on road/snowmobile accessible lake trout lakes (Yucca, Sun, Little Pic, Grehan, McKay, Pagwachuan, Charon, and Fernow)	L.T.,S.F.	High
		- conduct mini-lake and mini-stream surveys to obtain specific management information	S.F.,C.F.,L.T.,B.F.	Medium
		- implement an index netting program to evaluate the relative health of fish populations (Wildgoose Lake)	S.F.,L.T.,C.F.	Medium
		- continue to monitor commercial fishing harvests	C.F.	Low
(II) Fish habitat degradation	1. Identify the extent of habitat degradation, prevent further degradation and institute mitigative measures to protect the the fisheries resource	- encourage the development of a program to assess the effects of water level fluctuations and log drives on fish stocks in Long Lake (additional funding would be necessary)	S.F.,L.T.,C.F.	Medium
		- continue the contaminant monitoring program	S.F.,L.T.,C.F.	Medium
(III) Need of public awareness and understanding	1. Increase public awareness and understanding of fisheries management concepts and pertinent information	- District Wide tactics apply (page 22) - no zone specific tactics		

ZONE 1 - KENOGAMI RIVER: STRATEGIES AND TACTICS (continued)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(IV) Loss of fish and fishing opportunities	1. Maintain and enhance trout fishing opportunities over the long term	- implement a daily catch and possession limit of one (1) lake trout on "small" (< 250 ha) lake trout lakes (Sun, Yucca, Little Pic, Grehan); implement a season regulation if necessary	L.T.	High
		- implement a lake trout stocking program to establish introduced populations in new suitable lakes	L.T.	High
		- implement a daily catch and possession limit of five (5) brook trout and splake, or any combination thereof from selected stocked populations and extend the season.	S.F.	High
		- discourage use of trout in fish derbies	S.F.,L.T.	High
		- restrict access to sensitive natural brook trout populations	S.F.	Medium
	2. Maintain and enhance local walleye fishing opportunities	- promote live release in derbies for walleye	S.F.	High
	3. Improve and protect local smallmouth bass fishing opportunities	- investigate and implement a closed season for bass which protects the spawning and guarding seasons and therefore improving bass fishing opportunities over the long term (Cordingley)	S.F.	Medium
		- investigate the potential of stocking smallmouth bass into suitable lakes	S.F.	Low
(V) User conflicts	1. Reduce the potential for conflicts between fisheries resource users	- ensure multi-use fishing opportunities (e.g. day use, new commercial tourism, new cottaging, bait-fishing, commercial fishing).	S.F.,C.F.,L.T.,B.F.	High

Note: All District Wide strategies and tactics are applicable to Zone 1.

3.4.3 ZONE 2 - LITTLE CURRENT RIVER

3.4.3.1 Management Intent

Maintain the quality of sport fish, commercial fish and lake trout fishing opportunities.

Protect and maintain the existing remote fishing opportunities.

Maintain the existing and initiate new day use fishing opportunities.

3.4.3.2 Zone Description

(a) Location: This zone is situated south of the Ogoki River and the lower Little Current River tributaries watershed boundaries, to the northern boundary of Zone 1, and the Geraldton District boundaries.

(b) Population: This zone contains the community of Aroland which has a population of 210.

(c) Access: The majority of this zone is not road accessible. Road access is through a network of timber roads primarily in the south west corner of the zone. The Little Current and Drowning River systems provide water access.

(d) Use of Zone

(i) Anglers
- the majority of angling in this zone is conducted by clientele of tourism operators and outfitters.
- angler origin composition is 39% local, 8% non-local and 53% non-residents.

(ii) Tourism Developments
- 41 outpost camps on 32 waterbodies (bed capacity 270) (29% of District outpost camps).
- 7 lodges on 7 waterbodies (bed capacity 141) (21% of Distrist lodges).

(iii) Commercial Fishing
- 3 lakes licenced primarily for harvest of lake whitefish and coarse fish, with minimum incidental quotas for walleye, northern pike and yellow perch.

(iv) Bait Fishing
- 15 quarter-blocks licenced (20% of licenced blocks in District).

(v) Indian Subsistence
- permits have been issued for 2 lakes.

(vi) Cottaging
- 16 cottages on O'Sullivan Lake
- 4 remote cottages on Wababimiga Lake.

(vii) Timber Extraction
- largest resource activity in zone.
- includes Nakina and Longlac F.M.A.'s; Ogoki company management unit; Little Current F.M.U.

(viii) Mining
- prospecting is active.
- Luella Mine (O'Sullivan Lake) periodically operating.

(e) Nature of Fisheries Resource

	Zone 2	% District Total
No. of Lakes	538	5
No. of Rivers/Streams	96	23
Total Surface Area	69,113 ha	6
Total Potential Yield	419,455 kg/yr	7

Table 5 lists data on known fish species in Zone 2. Walleye and northern pike are the most common sport fish. About 14% of the District's known allowable brook trout yield is produced here. Zone 2 contains 17% of the District's lake trout lakes (O'Sullivan, Superb, Esnagami) and 32% of the District's lake trout allowable yield.

3.4.3.3 Resource Use Influencing Fisheries Management

(a) Accessibility to fisheries resources as a result of timber resource access road networks is expected to increase considerably (especially in the eastern half of this zone) by the year 2000. Within the Nakina Forest Management Unit, the proposed resource access road networks to the year 2000 are to extend north toward the Kapikotongwa River and the Little Current River.

(b) Remote tourism is the primary fisheries resource activity in Zone 2. A restricted boat cache policy on Marshall, Ara, Meta and Esnagami Lakes is currently in place.

3.4.3.4 Strategies and Tactics

The fisheries management strategies and tactics that are designed to address specific problems/issues of Zone 2 are listed in the following chart.

TABLE 5 - Known fish species data for Zone 2

Species	Number of Lakes	Lake Area (ha.)	Length of Rivers (km)	River Area (ha.)	Allowable Yield (kg/yr)
Lake Trout	3	12,319.6	---	---	6,628
Brook Trout	9	13,354.6	1,843	2,934	12,243
Walleye	53	39,794.0	387	3,173	77,503
Northern Pike	76	49,347.0	257	2,711	74,708
Lake Whitefish	29	37,787.7	---	---	48,094
Smallmouth Bass	5	1,520.7	---	---	961
Lake Sturgeon	--	---	---	---	---
Stocked Trout	1	11.3	---	---	34

ZONE 2 - LITTLE CURRENT RIVER: STRATEGIES AND TACTICS

(S.F.: Sport Fish Management; C.F.: Commercial Fish Management; L.T.: Lake Trout Management; B.F.: Bait Fish Management)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(I) Need of fisheries management information	1. Collect information on habitat inventory, harvest and population assessment	- conduct creel survey programs on waterbodies which have potentially stressed fish populations and maintain a trend-through-time data series	S.F., L.T.	High
		- continue index netting program to evaluate the relative health of fish populations (Ara, Esnagami Lakes)	S.F., C.F.	High
		- conduct mini-lake and mini-stream surveys to obtain specific management information	S.F.,C.F.,L.T.,B.F.	Medium
		- continue to monitor commercial fishing harvests	C.F.	Medium
		- assess the stocked lake trout population in Lucy Lake to determine if it is self-sustaining	L.T.	Medium
(II) Fish habitat degradation	1. Identify the extent of habitat degradation, prevent further degradation and institute mitigative measures to protect the fisheries resource	- District Wide tactics apply (page 22) - no zone specific tactics		
(III) Need of public awareness and understanding	1. Increase public awareness and understanding	- District Wide tactics apply (page 22) - no zone specific tactics		
(IV) Loss of fish and fishing opportunities	1. Maintain and enhance trout fishing opportunities over the long term	- discourage the use of brook trout and lake trout in fish derbies	S.F.,L.T.	High
		- implement a daily catch and possession limit of five (5) brook trout from all natural brook trout populations in lakes and rivers, where only two (2) may be greater than 40.0 cm (16") in total length	S.F.	High
		- implement a daily catch and possession limit of five (5) brook trout and splake, or any combination thereof, from selected stocked populations and extend the season.	S.F.	High
		- restrict access to sensitive brook trout populations	S.F.	Medium

ZONE 2 - LITTLE CURRENT RIVER: STRATEGIES AND TACTICS (continued)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
	2. Improve and maintain the local walleye fishing opportunities	- through procedures of the Environmental Assessment Act, identify recipient lakes for an adult walleye transfer program to increase day-use walleye fishing opportunities	S.F.	High
		- promote live release in derbies for walleye	S.F.	High
	3. Improve and protect the local smallmouth bass fishing opportunities	- investigate a closed season for bass which protects the spawning and guarding seasons, thereby improving bass fishing opportunities over the long term (Cammack, Harkett, John Bill, Minnesota and Squaw Lakes)	S.F.	Medium
		- investigate the potential of stocking smallmouth bass into suitable lakes	S.F.	Low
	4. Maintain and enhance northern pike fishing opportunities	- implement a daily catch and possession limit of six (6) northern pike, where only one (1) may be greater than 80.0 cm (31.5") in total length	S.F.	High
(V) User Conflicts	1. Reduce the potential for conflicts between remote tourism operators and road accessible anglers	- increase road accessible fishing opportunities (e.g., adult walleye transfer program)	S.F.	High
	2. Reduce the potential for conflicts between anglers/tourist operators and commercial fishermen	- ensure commercial fishermen are targetting for lake whitefish and coarse fish and not for incidental walleye and northern pike	C.F.	High

NOTE: All District Wide strategies and tactics are applicable to Zone 2.

3.4.4 ZONE 3 - OGOKI RIVER

3.4.4.1 Management Intent

Maintain the quality of sport fish, commercial fish and lake trout fishing opportunities.

Encourage expansion of remote fishing opportunities (e.g. main base lodges, outpost camps).

Restrict commercial fishing to Ogoki and Shabuskwia Lakes, targetting for lake whitefish and coarse fish.

3.4.4.2 Zone Description

(a) Location: South of the Albany River to the northern boundary of Zone 2 and to the Geraldton District boundaries.

(b) Population: No communities present.

(c) Access: Presently, no road access exists in this zone. Access is by air and by water to the Ogoki River system via the Ogoki Road (Nipigon M.N.R. District).

(d) Use of Zone

(i) Anglers
- almost all of non-resident origin
- remote fishing opportunities only

(ii) Tourism Developments
- 53 outpost camps on 41 waterbodies (bed capacity of 328) (38% of District outpost camps)

(iii) Commercial Fishing
- one lake licenced primarily for lake whitefish, with incidental quotas for walleye and northern pike

(iv) Indian Subsistence
- permits have been issued for the Ogoki River

(v) Timber Extraction
- no extraction to date
- includes portion of Nakina F.M.A.; Ogoki company management unit; Dusey and Little Current crown management units

(e) Nature of Fisheries Resource

	Zone 3	% District Total
No. of Lakes	958	9
No. of Rivers/Streams	29	7
Total Surface Area	96,125 ha	9
Total Potential Yield	592,809 kg/yr	10

Table 6 lists data on known fish species in Zone 3. Walleye and northern pike are the most common sport fish. About 13% of the District's brook trout allowable yield is found here. This zone contains 20% of the lake trout lakes (Luella, Faircloth, Opichuan, South), and 9% of the District's lake trout allowable yield. (Faircloth Lake is less than 250 ha in surface area). Nearly 10% of the District's lake sturgeon waterbody surface area is located here.

3.4.4.3 Resource Use Influencing Fisheries Management

(a) Largest activity in zone is remote tourism.

(b) The Waboose Dam on the Ogoki River diverts water to Lake Nipigon for hydroelectric generation. This creates large water fluctuations downstream of the dam in the Geraldton District.

3.4.3.4 Strategies and Tactics

The fisheries management strategies and tactics that are designed to address specific problems/issues of Zone 3 are listed in the following chart.

TABLE 6 - Known fish species data for Zone 3

Species	Number of Lakes	Lake Area (ha.)	Length of Rivers (km)	River Area (ha.)	Allowable Yield (kg/yr)
Lake Trout	4	1,788.8	---	---	1,788
Brook Trout	--	---	1,047	6,430	11,676
Walleye	47	43,643.3	1,102	6,336	82,149
Northern Pike	57	46,138.7	1,055	6,322	74,415
Lake Whitefish	28	32,150.9	---	---	44,488
Lake Sturgeon	5	13,012.5	209	5,250	Unknown

ZONE 3 - OGOKI RIVER: STRATEGIES AND TACTICS

(S.F.: Sport Fish Management; C.F.: Commercial Fish Management; L.T.: Lake Trout Management; B.F.: Bait Fish Management)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(I) Need of fisheries management information	1. Collect information on habitat inventory, harvest and population assessment	- District Wide tactics apply (page 22) - no zone specific tactics		
(II) Fish habitat degradation	1. Identify the extent of habitat degradation, prevent further degradation and institute mitigative measures to protect the fisheries resource	- District Wide tactics apply (page 22) - no zone specific tactics	S.F.,C.F.	Low
	2. Assess the effects of man-made water level fluctuations on fish stocks	- encourage the development of a program to determine if water level fluctuations on the Ogoki River system are adversely affecting the fisheries	S.F.,C.F.	Low
(III) Need of public awareness and understanding	1. Increase public awareness and understanding of fisheries management concepts	- District Wide tactics apply (page 22) - no zone specific tactics		
(IV) Loss of fish and fishing opportunities	1. Maintain and enhance trout fishing opportunities over the long term	- implement a catch and possession limit of one (1) lake trout from "small" (less than 250 ha) lake trout lakes (Faircloth)	L.T.	High
		- implement a daily catch and possession limit of five (5) brook trout from all natural brook trout populations in lakes and rivers, where only two (2) may be greater than 40.0 cm (16") in total length	S.F.	High
	2. Maintain and enhance northern pike fishing opportunities	- implement a daily catch and possession limit of six (6) northern pike, where only one (1) may be greater than 80.0 cm (31.5") in total length	S.F.	High
(V) User conflicts	1. Reduce the potential for conflicts between fisheries resource users	- District Wide tactics apply (page 22) - no zone specific tactics		

NOTE: All District Wide strategies and tactics are applicable to Zone 3.

3.4.5 ZONE 4 - ALBANY NORTH

3.4.5.1 Management Intent

Maintain the quality of sport fish, commercial fish and lake trout fishing opportunities.

Encourage the expansion of Indian tourism developments through conversion of commercial fishing quotas for walleye, northern pike and lake sturgeon to remote sport fishing opportunities.

3.4.5.2 Zone Description

(a) Location: This zone includes the Albany River and extends north to all Geraldton District boundaries.

(b) Population: Includes the communities of Ogoki Post, Fort Hope, Lansdowne House, Kasabonika, Summer Beaver and Webequie, with a total population of 2,268.

(c) Access: Presently accessible by air. Albany River may be accessed through long water trips.

(d) Use of Zone

(i) Anglers
- largely non-residents through tourist operators and outfitters

(ii) Tourism Developments
- 37 outpost camps on 27 waterbodies (bed capacity of 296) (26% of District outpost camps)
- 2 lodges on 2 lakes (bed capacity of 60) (6% of District lodges)

(iii) Commercial Fishing
- presently 16 lakes and rivers are licenced by Indian fisheries (quotas: 21,844 kg lake sturgeon; 165,530 kg lake whitefish; 156,330 kg walleye; 71,401 kg northern pike)

(iv) Indian Subsistence
- occurs mainly in close proximity to Indian communities

(v) Timber Extraction
- non-commercial extraction of timber in vicinity of communities
- includes a portion of the Lake St. Joseph Management Unit

(vi) Mining
- prospecting is active in the southern portion of this zone

(e) Nature of Fisheries Resource

	Zone 4	% District Total
No. of Lakes	7,899	76
No. of Rivers/Streams	153	36
Total Surface Area	838,216 ha	79
Total Potential Yield	4,320,192 kg/yr	73

The majority of the District's lakes, total surface area and total potential yield exists in this zone.

Table 7 lists data on known fish species in Zone 4. Walleye and northern pike are the most common sport fish. About 67% of the District's brook trout allowable yield is produced here. Two large coldwater rivers (Albany and Winisk) account for the majority of brook trout allowable yield. The majority of lake sturgeon waterbodies (88% by surface area) is contained in this zone.

3.4.5.3 Resource Use Influencing Fisheries Management

(a) The present policy requires that a tourist operator be a resident of this zone for any disposition to the tourism industry.

(b) The tourism and commercial fishing industries are the largest activities at present.

3.4.5.4 Strategies and Tactics

The fisheries management strategies and tactics that are designed to address specific problems/issues of Zone 4 are listed in the following chart.

TABLE 7 - Known fish species data for Zone 4

Species	Number of Lakes	Lake Area (ha.)	Length of Rivers (km)	River Area (ha.)	Allowable Yield (kg/yr)
Lake Trout	2	1,414.7	---	---	1,232
Brook Trout	2	1,826.8	1,328	31,127	59,753
Walleye	66	206,902.2	4,841	46,080	464,038
Northern Pike	75	214,034.2	4,853	46,083	371,469
Lake Whitefish	58	201,322.1	554	31,076	313,198
Lake Sturgeon	22	125,211.7	793	40,163	Unknown

ZONE 4 - ALBANY NORTH: STRATEGIES AND TACTICS

(S.F.: Sport Fish Management; C.F.: Commercial Fish Management; L.T.: Lake Trout Management; B.F.: Bait Fish Management)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
(I) Need of fisheries management information	1. Collect information on habitat inventory, harvest and population assessment	- assess the brook trout harvests and populations of the Albany River and Winisk River	S.F.	High
		- assess the brook trout trophy regulation on the Albany River	S.F.	High
(II) Fish habitat degradation	1. Identify the extent of habitat degradation, prevent further degradation, and institute mitigative measures to protect the fisheries resource	- District Wide tactics apply (page 22) - no zone specific tactics		
(III) Need of public awareness and understanding	1. Increase public awareness and understanding of fisheries management concepts	- provide educational materials to lake sturgeon commercial fishermen and fish buyers on the life history of lake sturgeon and its sensitivity to overfishing	C.F.	High
(IV) Loss of fish and fishing opportunities	1. Maintain and enhance trout fishing opportunities over the long term	- implement the regulation to establish a brook trout trophy fishery on the Albany River (Achapi Lake to Albany Forks), where the possession limit is two (2) brook trout and **all** must be greater than 51.0 cm (20") during the open season of January 1 to August 31	S.F.	High
		- determine the level of harvest and fishing effort that the brook trout population of the Winisk River can sustain	S.F.	High
		- implement a daily catch and possession limit of one (1) lake trout from "small" (less than 250 ha) lake trout lakes (Merpaw)	L.T.	High
		- implement a daily catch and possession limit of five (5) brook trout from all natural brook trout populations in lakes and rivers, where only two (2) may be greater than 40.0 cm (16") in total length	S.F.	High

ZONE 4 - ALBANY NORTH: STRATEGIES AND TACTICS (continued)

PROBLEM	STRATEGY	TACTIC	SPECIFIC FISHERIES MANAGEMENT	PRIORITY
	2. Maintain and enhance northern pike fishing opportunities	- implement a daily catch and possession limit of six (6) northern pike, where only one (1) may be greater than 80.0 cm (31.5") in total length	S.F.	High
	3. Protect and maintain lake sturgeon populations	- prevent overharvests and illegal harvests of lake sturgeon by informing commercial lake sturgeon fishermen and fish buyers of existing regulations pertaining to the legal harvest and sale of lake sturgeon	C.F.	High
		- investigate the social and economic benefits of converting commercial lake sturgeon quotas to tourism sport fishing opportunities	C.F.,S.F.	High
(V) User conflicts	1. Reduce the potential for conflicts between tourism and commercial fishing industries	- realign commercial fishing quotas to reflect historical harvests, thereby allowing an increase in remote sport fishing opportunities	C.F.,S.F.	High

NOTE: All District Wide strategies and tactics are applicable to Zone 4.

4.0 IMPLEMENTATION

An implementation schedule of proposed tactics to be conducted over the first five years of this plan (1989 to 1993) are outlined in the following chart under the identified problems/issues. The tactics for each are to be implemented in order of priority as indicated in the District Wide and Zone strategies and tactics sections. The initiation and/or completion of tactics will be dependent on existing and additional funding received.

Please note that it will be necessary to further discuss the implications of all proposed regulations with adjoining districts and existing fishing divisions prior to implementation.

GERALDTON DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1989-1993

(S.F.: Sport Fish Management; C.F.: Commercial Fish Management; L.T.: Lake Trout Management; B.F.: Bait Fish Management; E.A.: Environmental Assessment)

PROBLEM/ISSUE	TACTICS	SPECIFIC FISHERIES MANAGEMENT	LOCATION	YEAR	E.A. REQUIRED	EXISTING FUNDING	ADDITIONAL FUNDING
Need of fisheries management information	- implement a mandatory registration of cached boats	S.F., L.T.	District Wide	1990			X
	- survey lakes on a need-to-know basis under the Aquatic Habitat Inventory Survey program	S.F., C.F. L.T., B.F.	Zone 2: John Bill Lake	1990		X	
			District Wide	1989 to 1993			X
	- continue to encourage outside agencies and research groups to collect information as opportunities arise	S.F., C.F. L.T., B.F.	District Wide	1989 to 1993			X
	- continue to investigate new lakes for the trout stocking program	S.F., L.T.	Zone 1, Zone 2	1989 to 1993	X	X	
	- continue to identify sensitive fisheries habitat in streams	S.F.	Zone 1, Zone 2	1989 to 1993		X	
	- continue to investigate lake whitefish populations for commercial grading	C.F.	Zone 1, Zone 2	1989 to 1993		X	
	- continue to conduct winter creel survey programs on lake trout lakes	L.T.	Zone 1, Zone 2	1989 to 1993		X	
	- conduct creel survey programs on waterbodies which have potentially stressed fish populations and maintain a trend-through-time data series	S.F.	Zone 1: Kenogamisis Lake Wildgoose Lake	1989 to 1993		X	
			Zone 2: Marshall Lake	1989 to 1990			X
	- encourage voluntary creel surveys such as the angler cooperator program	S.F., L.T.	District Wide	1989 to 1993		X	

GERALDTON DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1989-1993 (continued)

PROBLEM/ISSUE	TACTICS	SPECIFIC FISHERIES MANAGEMENT	LOCATION	YEAR	E.A. REQUIRED	EXISTING FUNDING	ADDITIONAL FUNDING
	- implement angler voluntary creel stations	S.F., L.T.	Zone 1: Tricorn Lake	1989		X	
	- assess the stocked lake trout population in Lucy Lake to determine if it is self-sustaining		Zone 2:	1989 Lucy Lake		X	
	- continue index netting program to evaluate the relative health of fish populations	S.F., C.F. L.T.	Zone 1: Wildgoose Lake	1989, 1990		X	
			Zone 2: Ara Lake	1992		X	
			Esnagami Lake	1992		X	
	- continue to monitor commercial fishing harvests	C.F.	Zone 1, Zone 2	1989 to 1993		X	
	- assess brook trout harvests and populations	S.F.	Zone 4: Albany River	1989			X
	- assess the experimental management of the brook trout trophy fishery on the Albany River	S.F.	Zone 4: Albany River	1990 to 1993			X
Fish Habitat	- audit past and present fisheries protective prescriptions as they apply to "areas of concern"	S.F., C.F. L.T., B.F.	Zone 1, Zone 2	1989 to 1993		X	X
	- encourage volunteer assistance for rehabilitation projects	S.F., C.F. L.T., B.F.	District Wide	1989 to 1993			X

GERALDTON DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1989-1993 (continued)

PROBLEM/ISSUE	TACTICS	SPECIFIC FISHERIES MANAGEMENT	LOCATION	YEAR	E.A. REQUIRED	EXISTING FUNDING	ADDITIONAL FUNDING
	- work with resource users and industries to institute mitigative measures to maintain or enhance the fisheries resource	S.F., C.F. L.T., B.F.	District Wide	1989 to 1993		X	
	- analyze water level fluctuation data for effects on lake trout spawning sites in Long Lake	L.T.	Zone 1	1990 to 1993		X	
	- analyze water level fluctuations data for effects on the fisheries resource on the Ogoki River system	S.F., C.F.	Zone 3	1991 to 1993		X	
	- conduct literature search for effects of water level fluctuations on fish stocks	S.F., C.F. L.T.	Zone 1, Zone 3	1989 to 1993		X	
	- continue contaminant monitoring program	S.F., C.F. L.T.	Zone 1, Zone 2	1989 to 1993		X	X
Need of increased public awareness and understanding	- produce an annual tabloid outlining the District's fisheries programs, address problems and issues, advise of new regulations, etc.	S.F., C.F.	District Wide	1989 to 1993		X	X
	- investigate a Report-a-Poacher program with a financial reward (to be run by an independent outside agency)	S.F., C.F. L.T., B.F.	District Wide	1990 to 1993		X	
	- make material and resource people available for increasing awareness and understanding	S.F., C.F. L.T., B.F.	District Wide	1989 to 1993		X	
	- provide awareness and training to resource users on how to prevent and/or minimize degradation of fish habitat	S.F., C.F. L.T., B.F.	District Wide	1989 to 1993		X	
	- provide a brochure and/or video which illustrates the techniques of filleting northern pike	S.F.	District Wide	1989 to 1990		X	
	- provide a background fishing opportunity map for public distribution	S.F., C.F.	District Wide	1989		X	

GERALDTON DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1989-1993 (continued)

PROBLEM/ISSUE	TACTICS	SPECIFIC FISHERIES MANAGEMENT	LOCATION	YEAR	E.A. REQUIRED	EXISTING FUNDING	ADDITIONAL FUNDING
	- provide educational materials to lake sturgeon commercial fishermen and fish buyers on the life history of lake sturgeon and its sensitivity to overfishing	C.F.	Zone 4	1989		X	
	- prevent overharvests and illegal harvests of lake sturgeon by informing commercial lake sturgeon fishermen and fish buyers of existing regulations pertaining to the legal harvest and sale of lake sturgeon	C.F.	Zone 4	1989		X	
Loss of fish and fishing opportunities	- expand brook trout and splake stocking to additional suitable lakes and increase stocking densities to provide put-and-take fisheries	S.F.	District Wide	1989 - 1993	X	X	
	- implement a lake trout stocking program to establish introduced populations in new suitable waters	L.T.	Zone 1: MacLeod Lake	1989 - 1993	X	X	
	- implement a lake trout trophy regulation fishery where only one (1) lake trout over 56.0 cm (22 inches) may be kept in a daily catch limit of three (3) from "large" lake trout lakes	L.T.	Zone 1: Charon Lake Fernow Lake McKay Lake Pagwachuan Lake Zone 2: Esnagami Lake O'Sullivan Lake Superb Lake Zone 3: Luella Lake Opichuan Lake South Lake Zone 4: Troutfly Lake	1990		X	

GERALDTON DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1989-1993 (continued)

PROBLEM/ISSUE	TACTICS	SPECIFIC FISHERIES MANAGEMENT	LOCATION	YEAR	E.A. REQUIRED	EXISTING FUNDING	ADDITIONAL FUNDING
	- implement the regulation of a daily catch and possession limit of one (1) lake trout from "small" lake trout lakes	L.T.	Zone 1: Grehan Lake Little Pic Lake Sun Lake Yucca Lake Zone 3: Faircloth Lake Zone 4: Merpaw Lake	1990		X	
	- implement the regulation of a daily catch and possession limit of five (5) brook trout from all natural brook trout populations in rivers and streams, where only two (2) may be greater than 40.0 cm (16") in total length	S.F.	Zones 2,3,4	1990		X	
	- implement the regulation of a daily catch and possession limit of five (5) brook trout and splake, or any combination thereof, from selected stocked populations, and extend the open season	S.F.	Zone 1, Zone 2	1990		X	
	- implement the regulation to establish a brook trout trophy fishery on the Albany River (Achapi Lake to Albany Forks), where the possession limit is two (2) brook trout and **all** must be greater than 51.0 cm (20") during the open season of January 1 to August 31	S.F.	Zone 4	1989		X	
	- investigate possible future regulation changes for walleye	S.F.	District Wide	1989 to 1993		X	
	- implement the regulation of a daily catch and possession limit of six (6) northern pike; where only one (1) may be greater than 80.0 cm (31.5") in total length	S.F.	Zones 2, 3, 4	1990		X	

GERALDTON DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1989-1993 (continued)

PROBLEM/ISSUE	TACTICS	SPECIFIC FISHERIES MANAGEMENT	LOCATION	YEAR	E.A. REQUIRED	EXISTING FUNDING	ADDITIONAL FUNDING
	- implement a divisional boundary change	S.F., C.F. L.T., B.F.	District Wide	1990		X	
	- discourage use of trout in fish derbies	S.F., L.T.	Zone 1, Zone 2	1989 to 1993		X	
	- encourage live release in derbies for walleye	S.F.	Zone 1, Zone 2	1989 to 1993		X	
	- restrict access to sensitive natural brook trout populations	S.F.	Zone 1, Zone 2	1989 to 1993		X	
	- implement a closed season for smallmouth bass which protects the spawning and guarding seasons	S.F.	Zone 1, Zone 2	1990		X	
	- adult walleye transfer program (potential lakes - P)	S.F.	Zone 2:				
			Wababimiga Lake	1989 to 1991	X		X
			Alph (P)	1990 to 1991	X		X
	- promote good quality lake whitefish lakes open for commercial fishing licences	C.F.	District Wide	1989 to 1993		X	
	- investigate the social and economic benefits of converting commercial lake sturgeon quotas to remote sport fishing opportunities	C.F., S.F.	Zone 4	1989		X	
User Conflicts	- provide awareness of various fisheries resources needs	S.F., C.F. L.T.	District Wide	1989 to 1993		X	
	- reduce the potential for conflicts between remote tourism operators and day-use anglers by increasing day-use fishing opportunities	S.F., L.T.	Zone 2	1989 to 1993	X	X	X

GERALDTON DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1989-1993 (continued)

PROBLEM/ISSUE	TACTICS	SPECIFIC FISHERIES MANAGEMENT	LOCATION	YEAR	E.A. REQUIRED	EXISTING FUNDING	ADDITIONAL FUNDING
	- ensure commercial fishermen are targetting for lake whitefish and coarse fish and not for incidental walleye and northern pike	S.F., C.F.	Zone 2	1989 to 1993		X	
	- reduce the potential for conflicts between tourism and commercial fishing industries by realigning commercial fishing quotas to reflect historical harvests, thereby allowing an increase in remote sport fishing opportunities	S.F., C.F.	Zone 4	1989 to 1993		X	

References

Gibson, B.H. and P. Tsang. 1972. The effects of logging activities on the Sturgeon (Namewaminikan) River. O.M.N.R. Geraldton District. Mimeograph. 20 p.

Hosick, P. 1984. North Central Region Guidelines for Forest Management in Modified Management Areas. O.M.N.R. unpublished. 98 p.

Ontario Ministry of Natural Resources. 1981. Geraldton Land Use Guidelines. Background Information. O.M.N.R. Geraldton District. 137 p.

Ontario Ministry of Natural Resources. 1982. Northwestern Ontario Strategic Land Use Plan. 71 p.

Ontario Ministry of Natural Resources. 1986a. District Fisheries Management Plan: Planning Manual. O.M.N.R. 91 p.

Ontario Ministry of Natural Resources. 1987a. Background Information: G.D.F.M.P. (1988-2000). O.M.N.R. Geraldton District Office. unpublished. 228 p.

Ontario Ministry of Natural Resources. 1987b. Terms of Reference: Geraldton District Fisheries Management Plan. O.M.N.R. Geraldton District Office. unpublished. 19 p.

Ontario Ministry of Natural Resources. 1987c. Identification of Optional Fisheries Management Strategies and Tactics: G.D.F.M.P. (1988-2000). O.M.N.R. Geraldton District Office. unpublished. 25 p.

Ontario Ministry of Natural Resources. 1987d. A Summary of Background Information and Optional Management Strategies: G.D.F.M.P. (1988-2000). O.M.N.R. 50 p.

Ontario Ministry of Natural Resources. 1987e. Summary of Public Consultation to the G.D.F.M.P. Background Information and Optional Management Strategies. O.M.N.R. Geraldton District Office. unpublished. 17 p. & appendices.

Ontario Ministry of Natural Resources. 1987f. Analysis of Optional Management Strategies and Tactics. O.M.N.R. Geraldton District Office. unpublished.

Ontario Ministry of Natural Resources. 1987g. Draft - Sioux Lookout District Fisheries Management Plan. (1987-2000). O.M.N.R. 59 p.

Ontario Ministry of Natural Resources. 1988a. Environmental Guidelines for Access Roads and Water Crossings. O.M.N.R. 65 p.

Ontario Ministry of Natural Resources. 1988b. Timber Management Guidelines for the Protection of Fish Habitat. O.M.N.R. Fisheries Branch. 14 p.

SPOF Working Group No. 12. 1982. Partitioning Yields estimated from the Morphoedaphic Index into Individual Species Yields. O.M.N.R. Fisheries Branch. Published policy report. Toronto. Ontario. 71 p.

Tsang, A.J.S., A. Ahmed and M.A. Lusis. 1986. Summary: some results from the APIOS atmospheric deposition monitoring program (1981-1984). Ontario Ministry of the Environment. Report ARB-110-86. 33 p.

GLOSSARY

allowable yield: the recommended maximum sustainable annual harvest of a particular fish species, recognizing such constraints as habitat suitability, angler preferences, social concerns and past harvesting.

angler day: a measure of fishing effort by anglers with each day of fishing by one angler equivalent to one angler day.

area of concern: geographically-defined areas of value to fishery users/uses which could be affected by other resource uses, and which may require modifications to those uses.

bait fish: any fish which may be legally harvested by the commercial bait fish industry.

coarse fish: includes species of suckers, ciscoes and burbot.

commercial food fishing: the harvest and sale of fish for human consumption.

fish community: co-inhabiting fish species of a particular waterbody.

habitat: the place or type of conditions where fish species naturally or normally occur.

harvest: fish kept by the various fish resource users.

hectare (ha): measure of area equivalent to 10,000 m^2, or two and one-half (2.5) acres.

impounding gear: commercial food fishing gear used to capture fish alive, thereby permitting the release of sport fish species which are not on the licence.

incidental quota: a minimum allocation to the commercial fish industry to allow for an incidental catch of a particular fish species.

Indian subsistence: Indian harvest of fish for personal use and survival.

Integrated Resource Management (IRM): is the coordination of O.M.N.R. programs and activities so that the long-term benefits from the use of resources are maximized and conflicts between uses and users are minimized.

kilogram (kg): a measure of mass equivalent to 1,000 grams, or two and one-fifth (2.2) pounds.

local: any angler whose principal residence is in the Geraldton District.

major rivers and streams: watercourses which are known to or suspected of supporting sport fish throughout the year.

mitigative measures: prescriptions to alleviate adverse effects on fish habitat caused by resource extraction or other activities.

non-local: any angler whose principal residence is in Ontario, but outside of the Geraldton District.

non-resident: an angler who is not a resident of Ontario.

objective: a qualitative aim which the Ministry's efforts intend to accomplish.

potential yield: the theoretical annual sustainable harvest of sport fish and coarse fish that could be derived under optimum environmental, social and economic conditions.

quality catch standard: the average angler harvest of sport fish per angler day; in the Geraldton District this is 2 kg per angler day.

quota: the amount of fish allocated by species to commercial food fisheries.

rehabilitation: efforts to enhance or restore degraded or stressed fish populations and fisheries habitat to their original condition.

resident: any angler whose principal residence is in Ontario.

sport fish: in the Geraldton District, this includes the species walleye, sauger, northern pike, lake trout, brook trout, splake, lake whitefish, yellow perch, smallmouth bass, and lake sturgeon.

strategy: a general statement of intent addressed to meet the demand and to overcome particular problems or issues.

tactic: a specific action taken to meet a strategy.

target: a quantified end to be achieved by a specific date.

top predator: fish species such as walleye, northern pike, brook trout and lake trout which are generally on the highest levels of the aquatic food chain.

MNR
3961
ISBN 0-7729 - 5557 - 3
(0.3 k P.R. 89.08)